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Radio's Master

INDUSTRIAL RADIO & ELECTRONIC EQUIPMENT

STANDARD RADIO
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135 EAST SECOND ST.
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135 East Second St. FUlton 2174 Dayton 2, Ohio

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- Electrovoice
- Electro Products
- General Cement
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- Guardian
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- Heintz-Kauffman
- Hickok
- ICA
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- Selenium Corporation
- Shure
- Simpson
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STANDARD RADIO & ELECTRONIC PRODUCTS CO.
135 E. Second St., Dayton 2, Ohio

JAN 29 1946

RADIO'S MASTER

OFFICIAL
PARTS and EQUIPMENT MANUAL
of the
RADIO AND ELECTRONIC INDUSTRY

What to Buy and Where to Buy It

- **ILLUSTRATIONS**
- **DESCRIPTIONS**
- **SPECIFICATIONS**
- **PRICES**

Published by

UNITED CATALOG PUBLISHERS, INC.
106-110 Lafayette Street New York 13, N. Y.

Eleventh Edition

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Printed in U.S.A.

RADIO'S MASTER

NUMERICAL INDEX OF MANUFACTURERS' DISPLAY PAGES

By Section and Folio

EDITOR'S NOTE: This bare outline of the seventeen sections of RADIO'S MASTER will serve for speedy reference and for the purpose of familiarizing yourself quickly with its general contents. A digest of each section is given, but you are warned that these are presented in very sketchy fashion. During your forays through the Master you will find many additional items, too numerous to list here—you may also discover an item in a section to which it does not directly relate. For real accuracy and completeness, therefore, please consult the exhaustive detailed General Index at the back of book.

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RCA RADIO TUBE PRICE LIST

PRICES EFFECTIVE AS OF JANUARY 1, 1945
Prices shown are exclusive of all Federal, State and local excise, sales and similar taxes.

NOTICE: OPA has, under Section 6.48 of Rev. Supplementary Regulation 14 to General Maximum Price Regulation, established by type maximum retail and wholesale prices, and the maximum prices which may be charged by anyone reselling the types listed in this price list are subject to that regulation.

BROADCAST RECEIVER TYPES

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
0Z4	$1.45	2A6	$0.80	6F6	$0.95	6SL7GT	$1.15	12J7GT/G	$0.95	35Z5GT/G	$0.65
0Z4G	1.45	2A7	.95	6F6G	.75	6SN7GT	1.15	12K7GT/G	.85	36	.80
1A3	1.15	2B7	1.15	6F6GT	.75	6SQ7	.70	12K8	1.15	37	.70
1A4P	1.45	2E5	1.15	6F7	1.45	6SQ7GT/G	.70	12Q7GT/G	.70	38	.85
1A5GT/G	.95	3Q4	1.15	6F8G	1.15	6SR7	.80	12SA7	.85	39/44	.85
1A6	1.15	3Q5GT/G	1.15	6G6G	1.15	6SS7	.85	12SAGT/G	.85	41	.70
1A7GT/G	1.15	3S4	1.15	6H6	.95	6ST7	1.15	12SC7	1.15	42	.70
1B4P	1.15	5T4	1.75	6H6GT/G	.95	6T7G	.95	12SF5	.85	43	.95
1B5/25S	1.15	5U4G	.80	6J5	.75	6U5/6G5	1.15	12SF7	1.15	45	.65
1C5GT/G	1.15	5V4G	1.45	6J5GT/G	.75	6U7G	.80	12SG7	.95	45Z3	.85
1C6	1.15	5W4	.95	6J7	.95	6V6	1.75	12SH7	.95	45Z5GT	.80
1C7G	1.15	5X4G	.95	6J7G	.95	6V6GT/G	.95	12SJ7	.80	46	.95
1D5GP	1.15	5Y3GT/G	.60	6J7GT	.95	6W7G	1.45	12SJ7GT	.95	47	.95
1D7G	1.45	5Y4G	.60	6K5G	.80	6X5	1.45	12SK7	.75	48	2.65
1D8GT	1.75	5Z3	.80	6K6GT/G	.75	6X5GT/G	.70	12SK7GT/G	.95	49	1.15
1E5GP	1.45	5Z4	1.15	6K7	.85	6Y6G	1.45	12SL7GT	1.15	50	2.15
1E7G	2.15	6A4/LA	1.45	6K7G	.85	6Z7G	1.75	12SN7GT	1.15	50L6GT	.80
1F4	1.15	6A6	1.45	6K7GT	.85	6ZY5G	1.15	12SQ7	.70	50Y6GT/G	.95
1F5G	1.15	6A7	.80	6K8	1.15	7A4	1.15	12SQ7GT/G	.70	53	1.45
1F6	1.45	6A8	1.15	6K8G	1.15	7A5	1.15	12SR7	1.15	55	.95
1F7G	1.45	6A8G	.85	6L5G	.85	7A7	1.15	12Z3	.80	56	.65
1G4GT/G	1.15	6A8GT	.85	6L6	1.75	7A8	1.15	14A7/12B7	1.75	57	.75
1G5G	1.15	6AB5/6N5	1.15	6L6G	1.75	7B4	1.15	15	1.75	58	.75
1G6GT/G	1.45	6AB7/1853	1.15	6L7	1.45	7B5	1.15	19	1.15	59	1.45
1H4G	.80	6AC5GT/G	.95	6L7G	1.45	7B6	1.15	24A	.70	70L7GT	1.75
1H5GT/G	.95	6AC7/1852	1.75	6N7	1.45	7B7	1.15	25A6	1.75	71A	.70
1H6G	1.15	6AD7G	1.15	6N7GT/G	1.45	7B8	1.15	25A7G	1.45	75	.70
1J5G	1.75	6AF6G	1.15	6Q7	1.15	7C5	1.15	25L6	1.45	76	.75
1J6G	1.15	6AG5	2.15	6Q7G	.70	7C6	1.15	25L6GT/G	.85	77	.75
1L4	1.15	6AG7	2.15	6Q7GT	.70	7C7	1.15	25Z5	.80	78	.75
1LA4	2.15	6B4G	1.75	6R7	1.15	7E6	1.15	25Z6	1.15	79	1.45
1LA6	2.15	6B5	1.75	6R7GT/G	.75	7E7	1.45	25Z6GT/G	.65	80	.60
1LB4	2.15	6B6G	.95	6S7	1.45	7F7	1.45	26	.60	81	1.75
1LH4	2.15	6B7	1.15	6S7G	.95	7G7/1232	1.75	27	.60	82	1.15
1LN5	2.15	6B7S	2.15	6SA7	.85	7H7	1.75	30	.80	83	1.15
1N5GT/G	1.15	6B8	1.75	6SA7GT/G	.85	7J7	1.75	31	.80	83V	1.75
1P5GT	1.45	6B8G	1.15	6SC7	1.15	7Q7	1.15	32	1.15	84/6Z4	.95
1Q5GT/G	1.15	6C5	.95	6SF5	.85	7Y4	1.15	32L7GT	1.75	85	.75
1R5	1.15	6C5GT/G	.85	6SF5GT	.85	10	2.65	33	1.15	89	.80
1S4	1.15	6C6	.80	6SF7	1.15	12A7	1.75	34	1.15	117L7GT/117M7GT	2.15
1S5	.95	6C8G	1.45	6SG7	.95	12A8GT/G	.85	35	.80	117N7GT	2.15
1T4	1.15	6D6	.80	6SH7	.95	12AH7GT	1.45	35A5	1.15	117P7GT	2.15
1T5GT	1.45	6D8G	1.15	6SJ7	.80	12C8	1.45	35L6GT/G	.80	117Z6GT/G	1.45
1V	.80	6E5	.95	6SJ7GT	.95	12F5GT	.85	35Z3	1.15		
2A3	1.75	6F5	.95	6SK7	.75	12H6	.95	35Z4GT	.65		
2A5	.80	6F5GT/G	.85	6SK7GT/G	.95	12J5GT	.75				

Prices subject to change or withdrawal without notice.
NOTE: Additional charge for service where testing and installation is provided.

ALLIED RECEIVING TYPES

NOTICE: The OPA requires us to call your attention to the following: "The suggested retail price (or Fair Trade price) may be charged only by any one reselling this article (or for any article listed in this catalogue or price list or Fair Trade contract for which a retail price is suggested or minimum price established), if the maximum price for that article, as established by the person so reselling under the appropriate OPA regulation, is at least equal to the suggested retail (or Fair Trade) price."

2C21/1642	$0.95	6C4	$0.90	864 (n)	$1.00	1603 (n)	$4.25	1621	$1.30	1644	$1.50
2C22	1.10	6F4	10.25	954	4.50	1608 (n)	4.00	1622	1.40	1851	2.10
3A4	.75	6J4	8.35	955	2.85	1609 (n)	1.60	1626 (n)	1.60	7193	1.30
3A5	1.30	6J6	1.85	956	5.00	1610	2.00	1629 (n)	.85	9001	2.50
5R4GY	1.00	12A6	.80	957	3.00	1612	2.00	1631	2.00	9002	2.00
6AK5	2.90	12L8GT	1.50	958	3.00	1613	1.55	1632	2.00	9003	2.50
6AK6	1.10	446A	8.00	958-A	6.95	1614	1.65	1633	1.50	9004	2.00
6AL5	.75	446B	13.25	959	5.00	1619 (n)	2.20	1634	1.10	9005	4.00
6AQ6	1.50	559 (n)	5.35	1602	2.75	1620	2.50	1635	1.25	9006	1.15

All types except those designated by (n) are subject to Federal Excise Tax.

TRANSMITTING & SPECIAL PURPOSE TUBES

NOTICE: The suggested retail price (or Fair Trade price) may be charged only by any one reselling this article (or for any article listed in this catalogue or price list or Fair Trade contract for which a retail price is suggested of minimum price established), if the maximum price for that article, as established by the person so reselling under the appropriate OPA regulation, is at least equal to the suggested retail (or Fair Trade) price.

POWER AND ALLIED TYPES

Type	List Price
3B25	$ 5.25
4E27/8001	27.50
9C21	1000.00
9C22	1300.00
203-A	10.00
204-A	85.00
207	220.00
211	10.00
217-A	20.00
217-C	20.00
800	10.00
801-A	2.60
802	3.50
803	25.00
804	15.00
805	11.00
806	22.00
807	2.25
808	7.75
809	2.50
810	13.50
811	$ 3.50
812	3.50
813	20.00
814	17.50
815	4.50
816	1.00
826	19.00
827-R	135.00
828	17.50
829-B	19.50
830-B	10.00
832*	17.00
832-A*	13.00
833-A	76.50
834	12.50
835	10.50
836	11.50
837	2.80
838	10.50
841*	3.25
842	3.25
843	$ 1.65
845	10.00
846	200.00
849	120.00
850	37.50
851	160.00
852	16.40
857-B	160.00
858	275.00
860	25.00
861	155.00
862-A	750.00
865	7.95
866A/866	1.50
869-B	100.00
870-A	600.00
872A/872	7.50
880	350.00
889	175.00
889-R	325.00
891	285.00
891 (Rebuilt)	$242.25
891-R	410.00
891-R (Rebuilt)	348.50
892	190.00
892 (Rebuilt)	161.50
892-R	410.00
892-R (Rebuilt)	348.50
893-A	450.00
893-AR	800.00
898-A	750.00
1616	5.75
1623	2.50
1624	2.40
1625	2.25
8000	13.50
8003	12.00
8005	7.00
8008	7.25
8012	14.00
8025	14.50

SPECIAL TUBE TYPES

Type	List Price
0A3/VR75	$1.00
0A4G	.95
0C3/VR105	.90
0D3/VR150	.75
1C21	1.65
1P21	47.50
1P28	16.50
1P29	2.55
2B21	1.10
2D21	3.75
2V3G	1.30
2X2/879	$1.05
3D22	10.75
4B26/2000	6.00
868	2.15
874	1.50
878	11.00
884	1.45
885	1.50
917	3.40
918	2.60
919	2.95
920	$2.95
921	2.00
922	2.00
923	1.25
924	2.00
925	2.00
926	3.00
927	2.45
928	2.00
929	3.00
930	2.00
931-A	$14.50
934	2.90
935	18.00
991	.50
1663	6.00
2050	1.35
2051	1.15
8013-A	12.00
8016	2.75

CATHODE RAY TYPES

Type	List Price
2AP1	$6.25
3AP1/906P1	13.50
3AP4/906P4	18.25
3BP1	15.00
3CP1	15.50
3DP1	18.00
3EP1/1806P1	12.75
3FP7	27.00
3HP7	24.50
5BP1A/1802P1	$20.50
5BP4/1802P4	27.50
5CP1	28.00
5CP7	45.00
5FP7/1812P7	37.50
5HP1	20.00
5HP4	21.00
7BP7/1813P7	44.00
7CP1/1811P1	40.00
9AP4/1804P4	$62.50
9JP1/1809P1	42.00
12AP4/1803P4	75.00
12DP7	90.00
902	7.50
904	52.50
905	45.00
907	48.75
908	16.50
912	$163.40
913	4.00
914	85.00
1840	650.00
1847	24.50
1848	460.00
1850	500.00
1898	24.00
1899	95.00

* Indicates type subject to Federal Excise Tax.

SYLVANIA RADIO TUBES

Prices Effective June 26, 1944

Type	List Price
0A4G	$1.95
0Z4	1.60
0Z4G	1.60
01A	.90
1A4P	1.60
1A4T	1.60
1A5GT/G	1.10
1A6	1.30
1A7GT/G	1.30
1B4P	1.30
1B7G	1.30
1C5GT/G	1.30
1C7G	1.30
1D5GT	1.30
1D7G	1.60
1D8GT	1.95
1E4G	1.30
1E5GP	1.60
1E7G	2.35
1F4	1.30
1F5G	1.30
1F7G	1.60
1G4GT/G	1.30
1G6GT/G	1.60
1H4G	1.00
1H5GT/G	1.10
1H6G	1.30
1J5G	1.95
1J6G	1.30
1LA4 (Lock-In)	2.35
1LA6 (Lock-In)	2.35
1LB4 (Lock-In)	2.35
1LC5 (Lock-In)	2.35
1LC6 (Lock-In)	2.35
1LD5 (Lock-In)	2.35
1LE5 (Lock-In)	1.95
1LH4 (Lock-In)	2.35
1LN5 (Lock-In)	2.35
1N5GT/G	1.30
1N6G	1.30
1P5G	1.60
1P5GT	1.60
1Q5GT/G	1.60
1R5	1.60
1S4	1.60
1S5	1.60
1T4	1.60
1T5GT	1.60
1V	1.00
2A3	1.95
2A5	1.00
2A6	1.00
2A7	1.10
2A7S (Maj)	2.35
2B7	1.30
2B7S (Maj)	2.35

Type	List Price
2E5	$1.30
2X2/879	2.35
2Z2/G84 (Maj)	2.35
3A8GT	2.35
3Q5GT/G	1.60
3S4	1.60
5U4G	1.00
5V4G	1.60
5X4G	1.10
5Y3G	.70
5Y3GT/G	.70
5Y4G	.75
5Z3	1.10
6A3	1.95
6A5G	2.85
6A6	1.60
6A7	1.00
6A7S (Maj)	2.35
6A8GT	1.00
6AB5/6N5	1.60
6AC5GT/G	1.10
6AF5G	1.30
6B4G	1.95
6B5	1.95
6B7	1.30
6B7S (Maj)	2.35
6B8G	1.30
6C5GT/G	1.00
6C6	1.00
6C7 (Maj)	2.35
6C8G	1.60
6D6	1.00
6D7 (Maj)	2.35
6E5	1.10
6E6	1.95
6F5GT/G	1.00
6F6G	.90
6F6GT/G	.90
6F7	1.60
6F7S (Maj)	2.35
6F8G	1.30
6G6G	1.30
6H4GT	1.95
6H6GT/G	1.10
6J5GT/G	.90
6J7G	1.10
6J7GT	1.10
6J8G	1.60
6K6GT/G	1.00
6K7G	1.10
6K7GT	1.00
6K8G	1.30
6L5G	1.10
6L6GA	1.95
6L7G	1.60
6N6G	2.35

Type	List Price
6N7GT/G	$1.60
6P5GT/G	.80
6P7G	2.35
6Q7G	.90
6Q7GT	.90
6R7GT/G	.90
6S7G	1.60
6SA7GT/G	1.10
6SF5GT	1.00
6SJ7GT	1.10
6SK7GT/G	1.10
6SL7GT	1.60
6SN7GT	1.30
6SQ7GT/G	1.10
6T7G	1.30
6U5/6G5	1.30
6U6GT	1.30
6U7G	1.00
6V6GT/G	1.10
6V7G	1.30
6W7G	1.60
6X5GT/G	1.00
6Y5 (Maj)	2.35
6Y6G	1.60
6Y7G	1.60
7A4 (Lock-In)	1.30
7A5 (Lock-In)	1.30
7A6 (Lock-In)	1.30
7A7 (Lock-In)	1.30
7A8 (Lock-In)	1.30
7B4 (Lock-In)	1.30
7B5 (Lock-In)	1.30
7B6 (Lock-In)	1.30
7B7 (Lock-In)	1.30
7B8 (Lock-In)	1.30
7C5 (Lock-In)	1.30
7C6 (Lock-In)	1.30
7C7 (Lock-In)	1.30
7E6 (Lock-In)	1.30
7E7 (Lock-In)	1.60
7F7 (Lock-In)	1.60
7G7/1232 (Lock-In)	1.95
7H7 (Lock-In)	1.95
7J7 (Lock-In)	1.95
7L7 (Lock-In)	1.95
7N7 (Lock-In)	1.95
7Q7 (Lock-In)	1.30
7R7 (Lock-In)	1.60
7S7 (Lock-In)	1.95
7V7 (Lock-In)	2.35
7W7 (Lock-In)	2.35
7Y4 (Lock-In)	1.30
10	2.85
12A	1.00
12A5	2.35

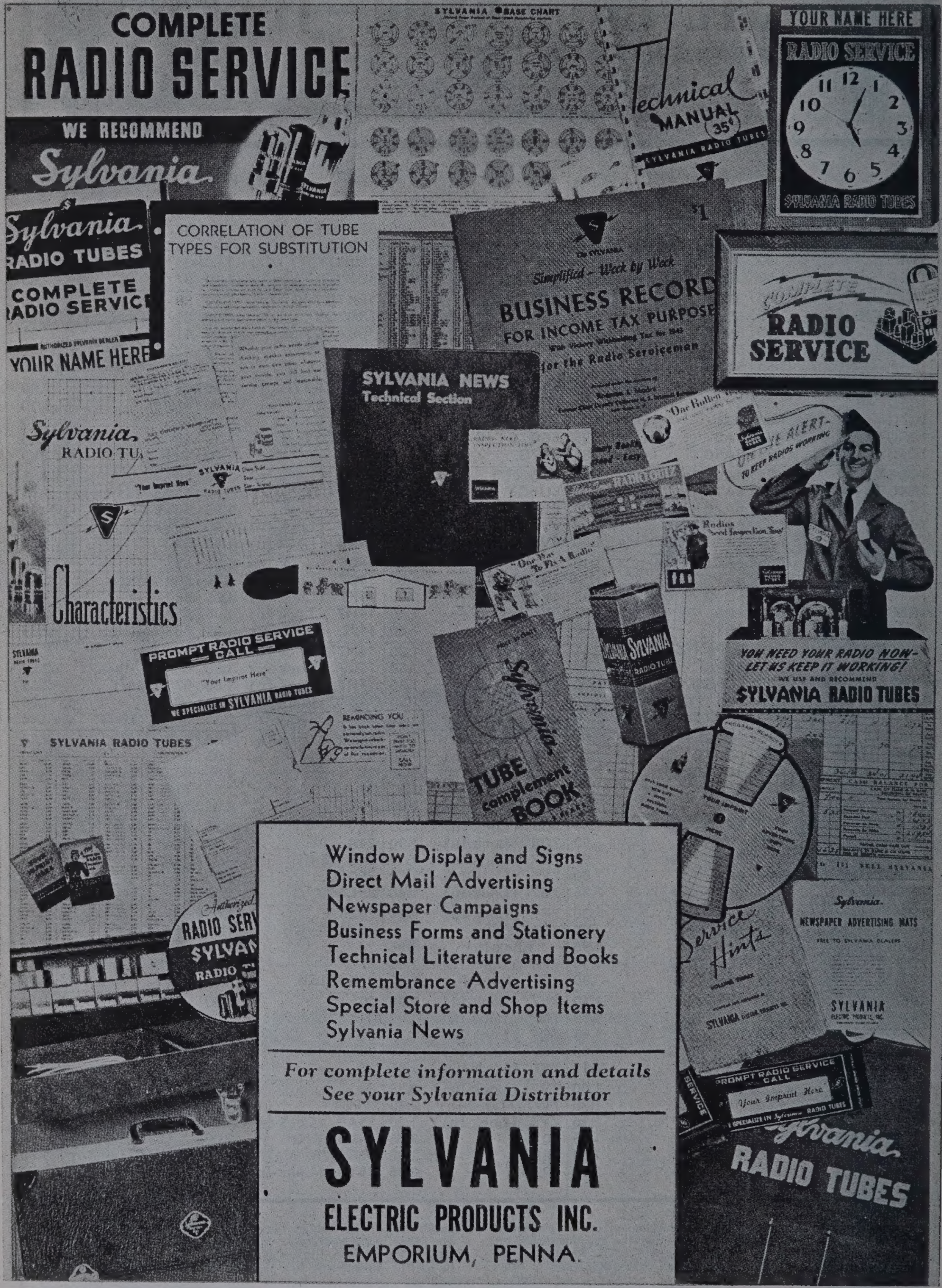
Type	List Price
12A7	$1.95
12A8GT	1.00
12F5GT	1.00
12J5GT	1.00
12J7GT	1.10
12K7GT/G	1.00
12Q7GT	.90
12SA7GT/G	1.30
12SF5GT	1.10
12SJ7GT	1.10
12SK7GT/G	1.10
12SL7GT	1.60
12SN7GT	1.30
12SQ7GT/G	1.10
12Z3	1.00
14A4 (Lock-In)	1.95
14A7/12B7 (Lock-In)	1.95
14B6 (Lock-In)	1.60
14B8 (Lock-In)	1.95
14C5 (Lock-In)	1.95
14C7 (Lock-In)	1.95
14F7 (Lock-In)	1.95
14H7 (Lock-In)	1.95
14J7 (Lock-In)	1.95
14N7 (Lock-In)	1.95
14Q7 (Lock-In)	1.60
14R7 (Lock-In)	1.60
14S7 (Lock-In)	1.95
14W7 (Lock-In)	2.35
14Y4 (Lock-In)	1.95
15	1.95
18	1.95
19	1.30
20	2.85
22	2.35
24A	.90
24S (Maj)	2.35
25C6G	1.95
25L6GT/G	1.10
25Z5	1.00
25Z6GT/G	1.00
26	.75
27	.70
27S (Maj)	2.35
30	1.00
31	1.00
32	1.30
32L7GT	1.95
33	1.30
34	1.30
35/51	1.00
35A5 (Lock-In)	1.30
35L6GT/G	1.00
35S/51S (Maj)	2.35
35Y4 (Lock-In)	1.60

Type	List Price
35Z3 (Lock-In)	$1.30
35Z4GT	.80
35Z5GT/G	.85
36	1.00
37	.85
38	1.10
39/44	1.00
41	.85
42	.85
43	1.10
45	.80
46	1.10
47	1.10
48	2.85
49	1.30
50	2.35
50A5 (Lock-In)	1.95
50L6GT	1.10
50Y6GT/G	1.10
53	1.60
55	1.10
55S (Maj)	2.35
56	.80
56AS (Maj)	2.35
56S (Maj)	2.35
57	.90
57AS (Maj)	2.35
57S (Maj)	2.35
58	.90
58AS (Maj)	2.35
58S (Maj)	2.35
59	1.60
70L7GT	1.95
71A	.90
75	.85
75S (Maj)	2.35
76	.90
77	.90
78	.90
79	1.60
80	.70
81	1.95
82	1.30
83	1.30
83V	1.95
84/6Z4	1.10
85	.90
85AS (Maj)	2.35
89	1.00
99	2.85
117L7/M7GT	2.35
117N7GT	2.35
117Z6GT/G	1.60
XXD (Lock-In)	1.60
XXFM (Lock-In)	1.95
XXL (Lock-In)	1.60

(Maj) Majestic

Prices are subject to increase by the amount of any present or future taxes or increases in taxes upon the manufacture, sale, use or transportation (or any acts incidental thereto) of the products herein, imposed by Federal, State, Municipal or other public authorities, which the Seller may be required to pay. The above prices conform to Maximum Retail Ceiling Prices as established by OPA Revised Supplementary Regulation No. 14 to GMPR, Amendment No. 134, effective May 20, 1944.

SALES AND SERVICE HELPS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See your Sylvania Distributor

SYLVANIA
ELECTRIC PRODUCTS INC.
EMPORIUM, PENNA.

THE MARK OF QUALITY

SYLVANIA

Radio Tubes
Cathode Ray Tubes
Pirani Tubes
Strobotrons
Thermocouple Tubes
Power Measurement Lamps
Gas Voltage Regulators
Electronic Devices

Incandescent Lamps
Fluorescent Lamps
Fluorescent Tubing
Fluorescent Fixtures
Fluorescent Accessories
Switchboard Lamps
Infra-Red Lamps
Special Purpose Lamps

Parts, Weld and Wire Products

SYLVANIA ELECTRIC PRODUCTS INC.

EMPORIUM - - - PENNSYLVANIA

Plants in

PENNSYLVANIA, MASSACHUSETTS, NEW YORK,
OHIO, NEW HAMPSHIRE, KENTUCKY AND WEST VIRGINIA

SYLVANIA

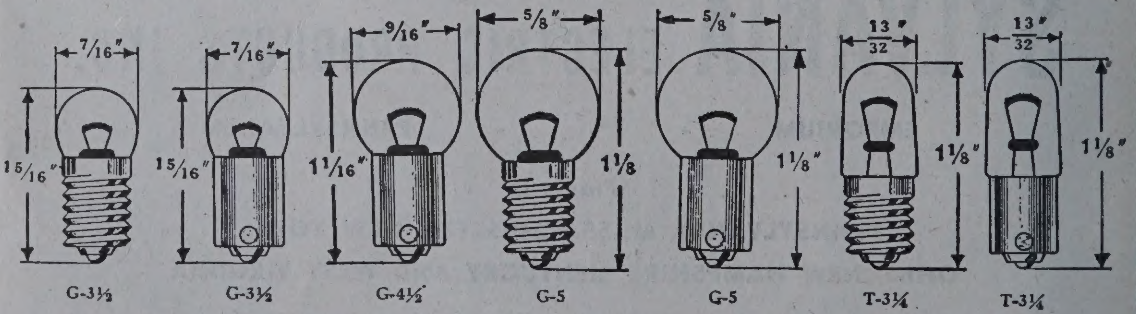
PANEL LAMPS

Type No.	Filament Volts	Filament Ampere	Bulb Style	Type of Base	Bead Color	List Price Each	List Price Carton of 10
S40	6-8	0.15	T-3¼	Screw	Brown	$0.09	$0.90
S41	2.5	0.50	T-3¼	Screw	White	.09	.90
S42	3.2	0.35	T-3¼	Screw	Green	.12	1.20
S43	2.5	0.50	T-3¼	Bayonet	White	.09	.90
S44	6-8	0.25	T-3¼	Bayonet	Blue	.09	.90
S45	3.2	0.35	T-3¼	Bayonet	White	.12	1.20
S46	6-8	0.25	T-3¼	Screw	Blue	.09	.90
*S47	6-8	0.15	T-3¼	Bayonet	Brown	.09	.90
S48	2.0	0.06	T-3¼	Screw	Pink	.15	1.50
*S49	2.0	0.06	T-3¼	Bayonet	Pink	.15	1.50
S50	6-8	0.20	G-3½	Screw	White	.10	1.00
S51	6-8	0.20	G-3½	Bayonet	White	.07	.70
S55	6-8	0.40	G-4½	Bayonet	White	.07	.70
S292	2.9	0.17	T-3¼	Screw	White	.12	1.20
S292A	2.9	0.17	T-3¼	Bayonet	White	.12	1.20
S1455	18.0	0.25	G-5	Screw	Brown	.10	1.00
S1455A	18.0	0.25	G-5	Bayonet	Brown	.10	1.00

*Sylvania Types S47 and S49 are interchangeable with Types 40A and 49A respectively, in any other brand.

ILLUSTRATIONS AND DIMENSIONS

(Actual Sizes)



RAYTHEON

High Fidelity

ELECTRONIC AND RADIO TUBES

DEPENDABLE RADIO RECEIVING TUBES

Price List

Type No.	Price	Type No.	Price	Type No.	Price	Type No.	Price	Type No.	Price	Type No.	Price
00A	$2.35	2A5	1.00	6F6	1.10	6SL7GT	1.60	12K7GT	1.00	35Z6G	1.30
01A	.90	2A6	1.00	6F6G	.90	6SN7GT	1.30	12K8GT	1.30	36	1.00
0A4G	1.95	2A7	1.10	6F7	1.60	6SQ7	1.00	12Q7GT	.90	37	.85
0Z4	1.60	2B7	1.30	6F8G	1.30	6SQ7GT	1.10	12SA7	1.00	38	1.10
0Z4G	1.60	2E5	1.30	6G6G	1.30	6SR7	1.10	12SA7GT	1.30	39/44	1.00
1A4	1.60	2V3G	2.85	6H4GT	1.95	6T7G	1.30	12SC7	1.30	40	1.60
1A5G	1.60	2X2/879	2.35	6H6	1.10	6U5/6G5	1.30	12SF5	1.10	41	.85
1A5GT	1.10	3A8GT	2.35	6H6G	1.10	6U6GT	1.30	12SF5GT	1.10	42	.85
1A6	1.30	3B7/1291	2.35	6H6GT	1.10	6U7G	1.00	12SH7GT	1.30	43	1.10
1A7G	1.60	3D6/1299	2.35	6J5	.90	6V6	1.95	12SJ7	1.10	45	.80
1A7GT	1.30	3Q5GT	1.60	6J5G	1.00	6V6G	1.30	12SJ7GT	1.10	45Z5GT	1.10
1B4P	1.30	3S4	1.60	6J5GT	.90	6V6GT	1.10	12SK7	1.00	46	1.10
1B5/25S	1.30	5T4	1.95	6J7	1.30	6V7G	1.30	12SK7GT	1.10	47	1.10
1B7GT	1.30	5U4G	1.00	6J7G	1.10	6W5G	1.95	12SL7GT	1.60	48	2.85
1C5G	1.60	5V4G	1.60	6J7GT	1.10	6W7G	1.60	12SN7GT	1.30	49	1.30
1C5GT	1.30	5W4	1.10	6J8G	1.60	6X5	1.60	12SQ7	1.00	50	2.35
1C6	1.30	5W4GT	.90	6K5G	1.10	6X5G	1.10	12SQ7GT	1.10	50C6G	1.95
1C7G	1.30	5X4G	1.10	6K6G	1.10	6X5GT	1.00	12SR7	1.30	50L6GT	1.10
1D5GP	1.30	5Y3G	.70	6K6GT	1.00	6Y6G	1.60	12SR7GT	1.30	50Y6GT	1.10
1D5GT	1.30	5Y4G	.75	6K7	1.10	6Y7G	1.60	12Z3	1.00	50Z7G	1.30
1D7G	1.60	5Z3	1.10	6K7G	1.10	6Z7G	1.95	14A7/12B7	1.95	52	2.85
1D8GT	1.95	5Z4	1.30	6K7GT	1.00	6ZY5G	1.30	14H7	1.95	53	1.60
1E4G	1.30	6A3	1.95	6K8	1.30	7A4	1.30	15	1.95	55	1.10
1E5GP	1.60	6A4/LA	1.60	6K8G	1.30	7A5	1.30	19	1.30	56	.80
1E7G	2.35	6A5G	2.85	6K8GT	1.30	7A6	1.30	20	2.85	57	.90
1F4	1.30	6A6	1.60	6L5G	1.10	7A7	1.30	22	2.35	58	.90
1F5G	1.30	6A7	1.00	6L6	1.95	7A8	1.30	24A	.90	59	1.60
1F6	1.60	6A8	1.30	6L6G	1.95	7B4	1.30	25A6	1.95	70A7GT	2.35
1F7G	1.60	6A8G	1.00	6L7	1.60	7B5	1.30	25A6G	1.10	70L7GT	1.95
1G4G	1.30	6A8GT	1.00	6L7G	1.60	7B6	1.30	25A6GT	1.10	71A	.90
1G4GT	1.30	6AB5/6N5	1.60	6N5	1.60	7B7	1.30	25A7G	1.60	75	.85
1G5G	1.30	6AB7/1853	1.95	6N6G	2.35	7B8	1.30	25A7GT	1.60	76	.90
1G6G	1.60	6AC5G	1.30	6N7	1.60	7C5	1.30	25AC5G	1.60	77	.90
1G6GT	1.60	6AC5GT	1.10	6N7GT/G	1.60	7C6	1.30	25AC5GT	1.60	78	.90
1H4G	1.00	6AC7/1852	2.35	6P5G	.85	7C7	1.30	25B6G	1.95	79	1.60
1H5G	1.30	6AD6G	1.60	6P5GT	.80	7E6	1.30	25B8GT	1.95	80	.70
1H5GT	1.10	6AD7G	1.60	6P7G	2.35	7E7	1.60	25C6G	1.95	81	1.95
1H6G	1.30	6AE5GT	1.30	6Q7	1.30	7F7	1.60	25L6	1.60	82	1.30
1J5G	1.95	6AE6G	1.30	6Q7G	.90	7G7/1232	1.95	25L6G	1.30	83	1.30
1J6G	1.30	6AE7GT	1.30	6Q7GT	.90	7H7	1.95	25L6GT	1.10	83V	1.95
1LA4	2.35	6AF6G	1.60	6R7	1.60	7J7	1.95	25Y5	2.35	84/6Z4	1.10
1LA6	2.35	6AG7	2.35	6R7G	1.10	7K7	1.95	25Z5	1.00	85	.90
1LB4	2.35	6B4G	1.95	6R7GT	.90	7L7	1.95	25Z6	1.30	89	1.00
1LC6	2.35	6B5	1.95	6S7	1.60	7N7	1.95	25Z6G	1.00	V99	2.85
1LH4	2.35	6B6G	1.10	6S7G	1.60	7Q7	1.30	25Z6GT	1.00	X99	2.85
1LN5	2.35	6B7	1.30	6SA7	1.00	7R7	1.95	26	.75	117L/M7GT	2.35
1N5G	1.60	6B8	1.95	6SA7GT	1.10	7T7	1.95	27	.70	117N7GT	2.35
1N5GT	1.30	6B8G	1.30	6SC7	1.30	7Y4	1.30	30	1.00	117Z6GT	1.60
1N6G	1.30	6C5	1.10	6SC7GT	1.30	10	2.85	31	1.00	950	1.95
1P5GT	1.60	6C5G	1.00	6SD7GT	1.30	12A	1.00	32	1.30	XXD	1.60
1Q5GT	1.60	6C5GT	1.00	6SF5	1.00	12A5	2.35	32L7GT	1.95	XXL	1.60
1R4/1294	1.95	6C6	1.00	6SF5GT	1.00	12A6GT	1.95	33	1.30	VR90-30	2.35
1R5	1.60	6C8G	1.60	6SF7	1.30	12A7	1.95	34	1.30	VR105-30	2.35
1S4	1.60	6D6	1.00	6SG7	1.30	12A8GT	1.00	35/51	1.00	VR150-30	2.35
1S5	1.60	6D8G	1.60	6SH7GT	1.30	12B8GT	1.60	35A5	1.30	**SPARTON TYPES**	
1T4	1.60	6E5	1.10	6SJ7	1.10	12C8	1.95	35L6GT	1.00	182B/482B	1.95
1T5GT	1.60	6E6	1.95	6SJ7GT	1.10	12F5GT	1.00	35Z3	1.30	183/483	1.95
1V	1.00	6F5	1.10	6SK7	1.00	12J5GT	1.00	35Z4GT	.80	485	1.95
2A3	1.95	6F5G	1.10	6SK7GT	1.10	12J7GT	1.10	35Z5GT	.85		
2A4G	2.35	6F5GT	1.00								

The prices listed herein are in accordance with ceiling prices as established by the Office of Price Administration, Washington, D. C., under Revised Supplementary Regulation No. 14 to the General Maximum Price Regulation, amendment No. 134, effective June 26, 1944.

Ceiling prices include all manufacturer's Federal Excise Taxes levied up to and including April 1, 1944.

SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE

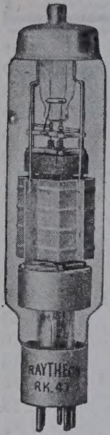
RAYTHEON

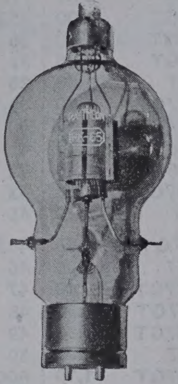
High Fidelity

ELECTRONIC AND RADIO TUBES

TRANSMITTING and INDUSTRIAL TUBES

Price List


RK47


RK65

Raytheon has long led the way in the development and manufacture of Transmitting and Special Purpose tubes which are now widely used in industrial, medical, communication, and other similar equipment. Raytheon furnishes a full range of these tube types, especially those particularly adapted for use in the high and ultra-high frequency spectrum.

Raytheon Transmitting and Special Purpose tubes are never limited to the use of one specific class of material in manufacture. Tantalum, molybdenum, tungsten, and carbon are selected for use as grid and plate materials only after exhaustive tests to determine, in terms of highest efficiency, the best-adapted material to the class of service for which the tube has been designed.

From Raytheon laboratories have come many important tube developments making possible the solution of tremendous war communication problems. These developments are now restricted to the use of our armed forces for necessary reasons of wartime security; but postwar amateur, shortwave, and industrial markets may confidently look to Raytheon for tubes of even greater efficiency and wider application.

TYPE NO.	CONSTRUCTION	SPECIAL USES	FILAMENT			RATED VOLTAGES				POWER—WATTS		NET PRICE
			Volts	Amps	Type	Plate	Grid	Screen	Sup-pressor	Dissi-pation	Output	
2C21/RK33	Dual Triode	R.F. Oscillator-Amp.	6.3	0.6	Heater	250	—60			5*	7*	$5.15
2C33/RX233A	Gas Triode	Control Thyratron	2.5	2.5	Oxide	1050	35					5.00
2C34/RK34	Dual Triode	H.F. Oscillator-Amp.	6.3	0.8	Heater	300	—36			10*		3.50
6AK5	R.F. Pentode	U.H.F. Amplifier	6.3	0.175	Heater	120	—2	120		1.7		4.00
6J6	Dual Triode	U.H.F. Oscillator	6.3	0.45	Heater	100	—1					2.00
RK20A	R.F. Pentode	Suppressor Mod.	7.5	3.25	Thor.	1250	—100	300	+45	40	84	15.00
RK23	R.F. Pentode	Suppressor Mod.	2.5	2.0	Heater	500	—90	200	+45	10	22	4.50
RK24	Triode	H.F. Transceiver	2.0	0.12	Oxide	180	—45			1.5	2.0	2.25
RK25	R.F. Pentode	Suppressor Mod.	6.4	0.9	Heater	500	—90	200	+45	10	22	3.95
RK28A	R.F. Pentode	Suppressor Mod.	10.0	5.0	Thor.	2000	—100	400	+45	125	250	28.50
RK38	Triode	R.F.-A.F. Amplifier	5.0	8.0	Thor.	2000	—200			100	225	13.50
RK39	Beam Tetrode	R.F. Osc.-Amp.	6.3	0.9	Heater	600	—90	300		25	36	3.50
RK47	Beam Tetrode	R.F. Amplifier	10.0	3.25	Thor.	1250	—70	300		50	120	17.50
RK48A	Beam Tetrode	R.F. Amplifier	10.0	5.0	Thor.	2000	—100	400		100	250	27.50
RK49	Beam Tetrode	R.F. Osc.-Amp.	6.3	0.9	Heater	400	—50	250		21	25	1.25
RK59	Dual Triode	Quick Heating	6.3	1.0	Oxide	500	—60			15*	32*	4.50
RK62	Gas Triode	Radio Control	1.4	0.05	Oxide	45	—3					3.50
RK63	Triode	R.F.-A.F. Amplifier	5.0	10.0	Thor.	3000	—200			200	525	22.00
RK64	R.F. Pentode	Quick Heating	6.3	0.5	Oxide	400	—30	100	+30	6	10	3.50
RK65	R.F. Tetrode	R.F. Amplifier	5.0	14.0	Thor.	3000	—100	400		215	510	34.50
RK307A	R.F. Pentode	Quick Heating	5.5	1.0	Oxide	500	—20	250	0	15	20	13.00
717A	R.F. Pentode	U.H.F. Amplifier	6.3	0.175	Heater	120	—2	120		1.7		7.50
RK807	Beam Tetrode	R.F. Osc.-Amp.	6.3	0.9	Heater	600	—45	250		25	40	2.25
RK829	Tetrode Dual Beam	U.H.F. Amplifier	12.6 or 6.3	1.125 2.25	Heater	500	—45	200		40*	83*	19.50
RK837	R.F. Pentode	Suppressor Mod.	12.6	0.7	Heater	500	—75	200	40	12	22	2.80
RX884	Gas Triode	Control Thyratron	6.3	0.6	Heater	300	—30					2.00
RX885	Gas Triode	Control Thyratron	2.5	1.4	Heater	300	—30					2.00
954	R.F. Pentode Sharp Cutoff	U.H.F. Amplifier	6.3	0.15	Heater	250	—3	100				4.30
955	Triode	U.H.F. Oscillator	6.3	0.15	Heater	180	—35				0.5	2.85
956	R.F. Pentode Remote Cutoff	U.H.F. Amplifier	6.3	0.3	Heater	250	—3	100				4.30
957	Triode	U.H.F. Amplifier	1.25	0.05	Oxide	135	—5					3.05
RK1625	Beam Tetrode	R.F. Osc.-Amp.	12.6	0.45	Heater	600	—45	250		25	40	2.25
2050	Gas Tetrode	Control Thyratron	6.3	0.6	Heater	650	—3.8	0				1.35
2051	Gas Tetrode	Control Thyratron	6.3	0.6	Heater	350	—2.7	0				1.15
9001	R.F. Pentode Sharp Cutoff	U.H.F. Amplifier	6.3	0.15	Heater	250	—3	100				2.50
9002	Triode	U.H.F. Oscillator	6.3	0.15	Heater	250	—7					2.00
9003	R.F. Pentode Remote Cutoff	U.H.F. Amplifier	6.3	0.15	Heater	250	—3	100				2.50

* Indicates value for two sections of dual types.
(NOTE: Type RK33, see 2C21/RK33; RK34, see 2C34/RK34; RK75, see RK307A; RX233A, see 2C33/RX233A.)

SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE

RAYTHEON
High Fidelity
ELECTRONIC AND RADIO TUBES

SPECIAL PURPOSE and HEARING AID TUBES
Price List

RECTIFIER TUBES

Raytheon is a leader in the field of Rectifier tubes and offers a most complete line of these types.

Listed below will be found high voltage-low current rectifier tubes and low voltage-high current rectifier tubes which are widely used in industrial applications. Special attention is called to the gas-filled and mercury-vapor rectifiers in the development of which Raytheon has long been a pioneer.

The continued research and development of tube types for special applications has always been among the prime achievements of Raytheon, and in the post-war period Raytheon will continue to offer unexcelled tube engineering talents to the industrial field of Electronics.

RAYTHEON
1641
RK-60
RAYTHEON
MADE IN U.S.A.
1641/RK60

RAYTHEON
RX-120
K6029
RX-120

TYPE NO.	CONSTRUCTION	FILLING	FILAMENT Volts	Amps	Type	AVERAGE CURRENT D.C.	MAX. PEAK INVERSE VOLTS	NET PRICE
BA	See CK1009/BA							
BH	Full Wave	Gas			Cold Cathode	125 Ma.	1000	$5.00
3B23/RK22	Full Wave	High Vacuum	2.5	8	Cathode	200 Ma.	3500	7.50
3B24	Half Wave	High Vacuum	2.5 5.0	3 3	Thoriated Thoriated	30 Ma. 60 Ma.	20,000 20,000	12.00
RK72	Half Wave	High Vacuum	2.5	3	Thoriated	20 Ma.	20,000	12.00
RK73	Half Wave	High Vacuum	2.5	4.25	Oxide	20 Ma.	13,000	13.00
RX120	Half Wave	Gas	2.5	30	Cathode	20 Amp.	150	17.75
RX120A	Half Wave	Gas	2.5	30	Cathode	10 Amp. 20 Amp.	750 300	20.00
RX212	Half Wave	Mercury	2.5	31	Cathode	20 Amp.	1000	27.15
RX215	Full Wave	Mercury	2.5	30	Cathode	15 Amp.	500	24.30
RK705A	Half Wave	High Vacuum	2.5 5.0	5 5	Thoriated Thoriated	50 Ma. 100 Ma.	35,000 35,000	22.50
RK836	Half Wave	High Vacuum	2.5	5	Cathode	250 Ma.	5000	11.50
866A/866	Half Wave	Mercury	2.5	5	Oxide	250 Ma.	10,000	1.50
872A	Half Wave	Mercury	5.0	6.75	Oxide	1.25 Amp.	10,000	7.50
0Z4A/1003	Full Wave	Gas			Ionic Heated Cathode	110 Ma.	880	1.90
1005/CK1005	Full Wave	Gas	6.3	0.1	Oxide	70 Ma.	450	3.80
1006/CK1006	Full Wave	Gas	1.75	2.25	*Oxide	200 Ma.	1600	13.35
CK1007	Full Wave	Gas	1.0	1.2	Oxide	110 Ma.	980	1.90
CK1009/BA	Full Wave	Gas			Ionic Heated Cathode	350 Ma.	1000	6.55
1641/RK60	Full Wave	High Vacuum	5.0	3	Oxide	50 Ma. 250 Ma.	4000 2500	2.75

* May be used as ionic heated cathode rectifier under some conditions.

FLAT HEARING AID TUBES

The Flat Hearing Aid Tube types listed below are an exclusive Raytheon development.

In the majority of hearing aids that have been manufactured in the United States, these Raytheon flat type tubes have been used as original equipment.

These tubes are now finding many new applications where very low battery drain, extremely small tube size, and long life are required.

TYPE NO.	CONSTRUCTION	SPECIAL USES	FILAMENT Volts	Amps	Type	RATED VOLTAGES Plate	Grid	Screen	PO.—WATTS Output	NET PRICE
CK502AX	Pentode	Power Output	1.25	0.030	Oxide	45	—1.5	45	.006	$4.00
CK503AX	Pentode	Power Output	1.25	0.030	Oxide	45	—2.5	45	.010	4.00
CK505AX	Pentode	Voltage Amplifier	0.625	0.030	Oxide	30	0	30		4.00
CK506AX	Pentode	Power Output	1.25	0.050	Oxide	45	—4.5	45	.025	4.00
CK507AX	Pentode	Power Output	1.25	0.050	Oxide	45	—2.5	45	.012	4.00
CK509AX	Triode	Voltage Amplifier	0.625	0.030	Oxide	45	0			4.00

RAYTHEON
High Fidelity
ELECTRONIC AND RADIO TUBES

DEPENDABLE RADIO PANEL LAMPS
Price List

Raytheon Dependable Radio Panel Lamps are of the highest quality and are designed especially to meet the requirements of the renewal market.

Type No.	Volts	Amps	Type of Base	Refer to	Approx. Candle Power	Bead Color	List Price Per Lamp	List Price Per Carton of 10	Federal Excise Tax Per Carton of 10
R40	6-8	0.15	Miniature Screw	Figure 1	0.5	Brown	$0.09	$0.90	$0.04
R40A	6-8	0.15	Miniature Bayonet	Figure 5	0.5	Brown	.09	.90	.04
R41	2.5	0.50	Miniature Screw	Figure 1	0.5	White	.09	.90	.04
R42	3.2	0.50	Miniature Screw	Figure 1	0.75	Green	.12	1.20	.05
R43	2.5	0.50	Miniature Bayonet	Figure 5	0.5	White	.09	.90	.04
R44	6-8	0.25	Miniature Bayonet	Figure 5	0.8	Blue	.09	.90	.04
R45	3.2	0.50	Miniature Bayonet	Figure 5	0.75	Green	.12	1.20	.05
R46	6-8	0.25	Miniature Screw	Figure 1	0.8	Blue	.09	.90	.04
Type 47 (Replace with type R40A, with which it is interchangeable).									
R48	2.0	0.06	Miniature Screw	Figure 1	0.03	Pink	.15	1.50	.07
R49	2.0	0.06	Miniature Bayonet	Figure 5	0.03	Pink	.15	1.50	.07
R49A	2.1	0.12	Miniature Bayonet	Figure 5	0.07	White	.18	1.80	.08
R50	6-8	0.20	Miniature Screw	Figure 2	1.0	White	.10	1.00	.05
R51	6-8	0.20	Miniature Bayonet	Figure 4	1.0	White	.07	.70	—
R55	6-8	0.40	Miniature Bayonet	Figure 3	1.5	White	.07	.70	—
R292	2.9	0.17	Miniature Screw	Figure 1	0.3	White	.12	1.20	.05
R292A	2.9	0.17	Miniature Bayonet	Figure 5	0.3	White	.12	1.20	.05

The color of the bead inside the lamp bulb may be used to identify the more common Raytheon types. This information is shown in the column headed "Bead Color."

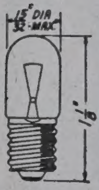


Fig. 1

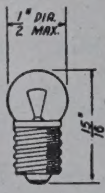


Fig. 2

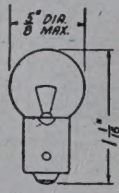


Fig. 3

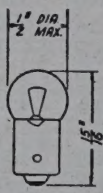


Fig. 4

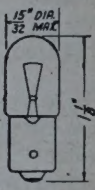


Fig. 5

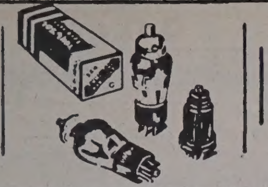
Raytheon Radio Panel Lamps are packed in unit boxes of ten (10) of a type.
All orders for these lamps must be for unit quantities, or multiples, of each type.

SUGGESTED DEALER'S DISCOUNT SCHEDULE

1-9 Cartons - - -	40% from list (Fed. Excise Tax additional)
10-19 Cartons - - -	40-10% from list (Fed. Excise Tax additional)
20 or more Cartons - -	50% from list (Fed. Excise Tax additional)

Above discounts apply to assorted cartons on any one order (10 lamps per carton).

SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE



TUNG-SOL
RADIO TUBES

PRICE LIST—FEBRUARY, 1941—REPRINTED FEB. 1945

Type No.	Description	List Price
01A	Triode Amplifier	$0.85
0Z4 Met	Cold Cathode Full-Wave Rectifier	1.55
0Z4G	Cold Cathode Full-Wave Rectifier	1.55
1A3	H-F Diode Midget	1.55
1A4P	Remote Cut-Off Pentode Amplifier	1.55
1A5GT/G	Power Pentode	1.05
1A6	Pentagrid Converter	1.25
1A7G	Pentagrid Converter	1.55
1A7GT	Pentagrid Converter	1.25
1B4P	RF Pentode Amplifier	1.25
1B5	Duo-Diode Triode Amplifier	1.25
1B7G	Pentagrid Converter	1.25
1C5GT/G	Power Pentode	1.25
1C6	Pentagrid Converter	1.25
1C7G	Pentagrid Converter	1.25
1D5GP	Remote Cut-Off Pentode Amplifier	1.25
1D7G	Pentagrid Converter	1.55
1D8GT	Diode-Triode Power Pentode	1.90
1E5GP	RF Pentode Amplifier	1.55
1E7G	Twin Power Pentodes	2.30
1F4	Power Pentode	1.25
1F5G	Power Pentode	1.25
1F6	Duo-Diode Pentode Amplifier	1.55
1F7G	Duo-Diode Pentode Amplifier	1.55
1G4GT/G	Triode Amplifier	1.05
1G5G	Power Pentode	1.25
1G6GT/G	Twin Power Triodes	1.55
1H4G	Triode Amplifier	.95
1H5G	Diode Triode Amplifier	1.25
1H5GT	Diode Triode Amplifier	1.05
1H6G	Duo-Diode Triode Amplifier	1.25
1J5G	Power Pentode	1.90
1J6G	Twin Power Triodes	1.25
1L4	R-F Amplifier Pentode Min.	1.55
1LA4 Loc	Power Pentode	2.30
1LA6 Loc	Pentagrid Converter	2.30
1LB4 Loc	Power Pentode	2.30
1LC5 Loc	RF Pentode	2.30
1LC6 Loc	Diode-Triode Amplifier	2.30
1LD5 Loc	Diode-Pentode Amplifier	2.30
1LE3 Loc	General Purpose Triode	1.90
1LH4 Loc	Diode-Triode Amplifier	2.30
1LN5 Loc	RF Triple Grid Amplifier	2.30
1N5GT	RF Pentode Amplifier	1.25
1N6G	Diode-Power Triode	1.25
1P5GT	Remote Cut-Off Triple-Grid Amplifier	1.55
1Q5GT/G	Beam Power Tube	1.55
1R5	Pentagrid Converter (miniature type)	1.55
1S4	Pentode Power Amplifier (miniature type)	1.55
1S5	Diode Pentode Amplifier (miniature type)	1.55
1SA6GT	R.F. Pentode	1.55
1SB6GT	Diode Pentode Amplifier	1.55
1T4	Diode Pentode Amplifier (miniature type)	1.55
1T5GT	Beam Power Tube	1.55
1V	Half-Wave Rectifier	.95
2A3	Power Triode	1.90
2A4G	Argon Filled Thyratron	2.30
2A5	Power Pentode	.95
2A6	Duo-Diode High-Mu Triode Amplifier	.95
2A7	Pentagrid Converter	1.05
2B7	Duo-Diode Pentode Amplifier	1.25
2E5	Electron Ray Tube	1.25
2G5	Electron Ray Tube	1.55
3A4	Power Amp. Pentode Min.	1.55
3A8GT	Diode Triode Pentode Amplifier	2.30
3B5GT	Beam Power Amplifier	1.55
3Q4	Power Amp. Pentode Min.	1.55
3Q5GT/G	Beam Power Tube	1.55

Type No.	Description	List Price
3S4	Pentode Power Amplifier (miniature type)	$1.55
5U4G	Full-Wave Rectifier	.95
5V4G	Full-Wave Rectifier	1.55
5W4GT/G	Full-Wave Rectifier	.85
5X4G	Full-Wave Rectifier	1.05
5Y3G	Full-Wave Rectifier	.65
5Y3GT/G	Full-Wave Rectifier	.65
5Y4G	Full-Wave Rectifier	.70
5Z3	Full-Wave Rectifier	1.05
6A3	Power Triode	1.90
6A4/LA	Power Pentode	1.55
6A6	Twin Power Triodes	1.55
6A7	Pentagrid Converter	.95
6A8GT	Pentagrid Converter	.95
6AB5/6N5	Electron Ray Tube	1.55
6AC5GT/G	Power Triode	1.05
6AD6G	Electron Ray Tube	1.55
6AD7G	Triode-Pentode Power Amplifier	1.55
6AE5GT/G	Single Grid Twin Plate Control Tube	1.25
6AE6G	Triode Amplifier	1.25
6AF5G	Triode Amplifier	1.25
6AF6G	Electron Ray Tube	1.55
6A8G	Pentagrid Converter	.95
6B4G	Power Triode	1.90
6B5	Dynamic Coupled Triodes	1.90
6B7	Duo-Diode Pentode Amplifier	1.25
6B8G	Duo-Diode Pentode Amplifier	1.25
6B8GT	Duo-Diode Pentode Amplifier	1.25
6C5G	Triode Amplifier	.95
6C5GT/G	Triode Amplifier	.95
6C6	RF Triple Grid Amplifier	.95
6C7	Duo-Diode Triode Amplifier	2.30
6C8G	Twin Triodes Amplifier	1.55
6D6	Remote Cut-Off Triple Grid Amplifier	.95
6D8G	Pentagrid Converter	1.55
6E5	Electron Ray Tube	1.05
6E7	Remote Cut-Off Triple Grid Amplifier	2.30
6F5G	High-Mu Triode Amplifier	1.05
6F5GT	High-Mu Triode Amplifier	.95
6F6G	Power Pentode	.85
6F6GT/G	Power Amp. Pentode	.85
6F7	Triode Pentode Amplifier	1.55
6F8G	Twin Triode Amplifiers	1.25
6G6G	Power Pentode	1.25
6H4GT/G	Single Diode Rectifier	1.90
6H6GT/G	Twin Diode Rectifier	1.05
6J5G	Triode Amplifier	.95
6J5GT/G	Triode Amplifier	.85
6J7G	RF Triple Grid Amplifier	1.05
6J7GT	RF Triple Grid Amplifier	1.05
6J8G	Triode Heptode Converter	1.55
6K5G	High-Mu Triode Amplifier	1.05
6K6G	Power Pentode	1.05
6K6GT/G	Power Pentode	.95
6K7G	Remote Cut-Off Triple Grid Amplifier	1.05
6K7GT	Remote Cut-Off Triple Grid Amplifier	.95
6K8G	Triode Hexode Converter	1.25
6K8GT	Triode Hexode Converter	1.25
6L5G	Triode Amplifier	1.05
6L6G	Beam Power Tube	1.90
6L7G	Pentagrid Mixer	1.55
6N6G	Dynamic Coupled Triodes	2.30
6N7G	Twin Power Triodes	1.55
6N7GT/G	Twin Power Triodes	1.55
6P5GT	Triode Amplifier	.75
6Q7G	Duo-Diode High-Mu Amplifier	.85
6Q7GT	Duo-Diode High-Mu Triode Amplifier	.85
6R7G	Duo-Diode Triode Amplifier	1.05
6R7GT	Duo-Diode Triode Amplifier	$0.85

(Continued next page)

TUNG-SOL RADIO TUBES (con.)

Type No.	Description	List Price
6S7G	Remote Cut-Off Triple Grid Amplifier	1.55
6SA7GT/G	Pentagrid Converter	1.05
6SC7GT	Twin Triode Amp.	1.25
6SD7GT	Semi-Remote Cut-Off Triple Grid Amplifier	1.25
6SF5GT	High-Mu Triode Amplifier	.95
6SJ7GT	RF Triple Grid Amplifier	1.05
6SK7GT/G	Remote Cut-Off Triple Grid Amplifier	1.05
6SL7GT	Twin Triode Amplifier	1.55
6SN7GT	Twin Triode Amplifier	1.25
6SQ7GT/G	Duo-Diode High-Mu Triode Amplifier	1.05
6SR7GT	Duo-Diode Triode Amp.	1.25
6T7G	Duo-Diode High-Mu Triode Amplifier	1.25
6U5/6G5	Electron Ray Tube	1.25
6U6GT	Beam Power Tube	1.25
6U7G	Remote Cut-Off Triple Grid Amplifier	.95
6V6G	Beam Power Tube	1.25
6V6GT/G	Beam Power Tube	1.05
6V7G	Duo-Diode Triode Amplifier	1.25
6W7G	RF Triple Grid Amplifier	1.55
6X5G	Full-Wave Rectifier	1.05
6X5GT/G	Full-Wave Rectifier	.95
6Y5S	Full-Wave Rectifier	2.30
6Y6G	Beam Power Tube	1.55
6Y7G	Twin Power Triodes	1.55
6Z5/12Z5	Full-Wave Rectifier	2.30
6Z7G	Twin Power Triodes	1.90
6ZY5G	Full-Wave Rectifier	1.25
7A4 Loc	Triode Amplifier	1.25
7A5 Loc	Beam Power Tube	1.25
7A6 Loc	Twin Diode Rectifier	1.25
7A7 Loc	Remote Cut-Off Triple Grid Amplifier	1.25
7A8 Loc	Octode Converter	1.25
7B4 Loc	High-Mu Triode	1.25
7B5 Loc	Power Pentode	1.25
7B6 Loc	Duo-Diode High-Mu Triode Amplifier	1.25
7B7 Loc	Remote Cut-Off RF Triple Grid Amplifier	1.25
7B8 Loc	Pentagrid Converter	1.25
7C5 Loc	Beam Power Tube	1.25
7C6 Loc	Power Triode	1.25
7C7 Loc	RF Triple Grid Amplifier	1.25
7E6 Loc	Duo-Diode Triode Amplifier	1.25
7E7 Loc	Duo-Diode Pentode Amplifier	1.55
7F7 Loc	Twin Triodes Amplifier	1.55
7G7/1232 Loc	Triple Grid Amplifier	1.90
7H7 Loc	Semi-Remote Cut-Off Triple Grid Amplifier	1.90
7J7 Loc	Triode Heptode Converter	1.90
7N7 Loc	Twin Triode Amplifier	1.90
7L7 Loc	RF Triple Grid Amplifier	1.90
7Q7 Loc	Pentagrid Converter	1.25
7V7 Loc	RF Pentode	2.30
7Y4 Loc	Duo-Diode High-Mu Triode Amplifier	1.25
10	Full-Wave Rectifier	2.80
12A	Triode Amplifier	.95
12A5	Power Pentode	2.30
12A7	Power Pentode Half-Wave Rectifier	1.90
12A8GT	Pentagrid Converter	.95
12AH7GT	Twin Triode Amplifier	1.90
12B8GT	Triode-Remote Cut-Off Pentode Amplifier	1.55
12E5GT	Triode Amplifier	1.55
12F5GT	High-Mu Triode Amplifier	.95
12J5GT	Triode Amplifier	.95
12J7GT	RF Triple Grid Amplifier	1.05
12K7GT	Remote Cut-Off Triple Amplifier	.95
12Q7GT	Duo-Diode High-Mu Triode Amplifier	.85
12SA7GT/G	Pentagrid Converter	1.25
12SF5GT	High-Mu Triode Amplifier	1.05
12SJ7GT	RF Triple Grid Amplifier	1.05
12SK7GT/G	Remote Cut-Off Triple Grid Amplifier	1.05
12SL7GT	Twin Triode Amplifier	1.55
12SQ7GT/G	Duo-Diode High-Mu Triode Amplifier	1.05
12SR7GT	Duo-Diode Triode	1.25
12Z3	Half-Wave Rectifier	.95
14A7/12B7 Loc	Remote Cut-Off Triple Grid Amplifier	1.90
14C7 Loc	RF Triple Grid	1.90
14F7 Loc	Twin High-Mu Triode Amplifier	1.90
14H7 Loc	Semi-Remote Cut-Off Triple Grid	1.90
14J7 Loc	Triode Hexode Converter	1.90
14Q7 Loc	Pentagrid Converter	1.55
14R7 Loc	Duo-Diode Pentode	1.55
15	RF Pentode Amplifier	1.90

Type No.	Description	List Price
19	Twin Power Triodes	$1.25
22	RF Tetrode Amplifier	2.30
24	RF Tetrode Rectifier	.85
25A6 Met	Power Pentode	1.90
25A6GT/G	Power Pentode	1.05
25A7GT/G	Power Pentode Half-Wave Rectifier	1.55
25AC5GT/G	Power Triode	1.55
25B5	Dynamic Coupled Triodes	2.30
25C6G	Beam Power Tube	1.90
25L6GT/G	Beam Power Tube	1.05
25N6G	Dynamic Coupled Triodes	2.30
25Z5	Full-Wave Rectifier Voltage Doubler	.95
25Z6GT/G	Full-Wave Rectifier Voltage Doubler	.95
26	Triode Amplifier	.70
27	Triode Amplifier	.65
30	Triode Amplifier	.95
31	Power Triode	.95
32	RF Tetrode Amplifier	1.25
32L7GT	Beam Power Tube Half-Wave Rectifier	1.90
33	Power Pentode	1.25
34	Remote Cut-Off Pentode Amplifier	1.25
35	Remote Cut-Off Tetrode Amplifier	.95
35A5 Loc	Beam Power Tube	1.25
35L6GT/G	Beam Power Tube	.95
35Z3 Loc	Half-Wave Rectifier	1.25
35Z4GT	Half-Wave Rectifier	.75
35Z5GT/G	Half-Wave Tapped Heater Rectifier	.80
35Z6G	Twin-Diode High Vacuum Rectifier Voltage Doubler	1.25
36	RF Tetrode Amplifier	.95
37	Triode Amplifier	.80
38	Power Pentode	1.05
39/44	Remote Cut-Off Pentode Amplifier	.95
40	High-Mu Triode Amplifier	1.55
41	Power Pentode	.80
42	Power Pentode	.80
43	Power Pentode	1.05
45	Power Triode	.75
45Z3	Miniature Type Half-Way Rectifier	1.05
46	Dual Grid Power Tube	1.05
47	Power Pentode	1.05
48	Power Tetrode	2.80
49	Dual Grid Power Tube	1.25
50	Power Triode	2.30
50C6G	Beam Power Amplifier	1.90
50L6GT	Beam Power Tube	1.05
50Y6GT/G	Full-Wave Rectifier Voltage Doubler	1.05
50Z7G	Full-Wave Tapped Heater Rectifier	1.25
53	Twin Power Triodes	1.55
55	Duo-Diode Triode Amplifier	1.05
56	Triode Amplifier	.75
57	RF Triple Grid Amplifier	.85
58	Remote Cut-Off Triple Grid Amplifier	.85
59	Triple Grid Power Tube	1.55
70A7GT	Beam Power Tube Half-Wave Tapped Rectifier	2.30
70L7GT	Beam Power Tube Half-Wave Rectifier	1.90
71A	Power Triode	.85
75	Duo-Diode High-Mu Triode Amplifier	.80
76	Triode Amplifier	.85
77	RF Triple Grid Amplifier	.85
78	Remote Cut-Off Triple Grid Amplifier	.85
79	Twin Power Triodes	1.55
80	Full-Wave Rectifier	.65
81	Half-Wave Rectifier	1.90
82	Mercury Vapor Full-Wave Rectifier	1.25
83	Mercury Vapor Full-Wave Rectifier	1.25
83V	Full-Wave Rectifier	1.90
84/6Z4	Full-Wave Rectifier	1.05
85	Duo-Diode Triode Amplifier	.85
89	Triple Grid Power Tube	.95
117L7/M7GT	Beam Power Amplifier, Half-Wave Rectifier	2.30
117P7GT	Beam Power Amplifier, Half-Wave Rectifier	2.30
117Z4GT	Half-Wave Rectifier	1.55
117Z6GT/G	Full-Wave Rectifier Voltage Doubler	1.55
183	Power Triode	1.90
485	Triode Amplifier	1.90
950	Power Pentode	1.90
XXD Loc	Twin Triodes	1.55
XXFM Loc	Duo-Diode Triode	1.90
XXL Loc	Triode	1.55

TUNG-SOL RADIO DIAL LAMPS

Lamp No.	Volts	Amperes	Approx. Candle-Power	Bead Color	Base	Bulb Type	List Price
40	6-8	0.15	0.5	Brown	Miniature Screw	T-3¼	$0.90
41	2.5	0.5	0.5	White	Miniature Screw	T-3¼	.09
43	2.5	0.5	0.5	White	Miniature Bayonet	T-3¼	.09
44	6-8	0.25	0.8	Blue	Miniature Bayonet	T-3¼	.09
46	6-8	0.25	0.8	Blue	Miniature Screw	T-3¼	.09
47	6.3	0.15	0.5	Brown	Miniature Bayonet	T-3¼	.09
48	2.0	0.06	....	Pink	Miniature Screw	T-3¼	.15
49	2.0	0.06	....	Pink	Miniature Bayonet	T-3¼	.15
50	6-8	0.2	1.0	White	Miniature Screw	G-3½	.10
51	6-8	0.2	1.0	White	Miniature Bayonet	G-3½	.07
55	6-8	0.4	1.5	White	Miniature Bayonet	G-4½	.07

NATIONAL UNION RADIO PRODUCTS

RADIO RECEIVING TUBES

Government Order Limits Us to These Types for Sale to Civilians. Write for information on types not shown but required for special priority applications.

TYPES

0Z4G
1A5GT/G
1A7GT/G
1C5GT/G
1H5GT
1LA4
1LB4
1LC6
1LD5
1LE3
1LH4
1LN5
1N5GT
1P5GT
1Q5GT/G
1T5GT
1V
2A3
2A5
3Q5GT/G
5U4G
5V4G
5X4G
5Y3GT/G
5Y4G
5Z3
6A7
6A8GT
6B7
6B8G
6C5GT/G
6C8G
6F5GT
6F6GT/G
6F8G
6H6GT-G
6J5GT/G
6J7GT
6K5GT
6K6GT/G
6K7GT
6K8GT
6L6G
6L7G
6N7GT/G
6Q7GT
6R7GT
6SA7GT/G
6SC7GT
6SD7GT
6SJ7GT
6SK7GT/G
6SQ7GT/G
6U5/6G5
6V6GT/G
6X5GT
7A4
7A6
7A8
7B5
7B7
7C5
7C6
7C7
7F7
7H7
7J7
7N7
7V7
7Y4
12A8GT
12J5GT
12K7GT
12Q7GT
12SA7GT/G
12SJ7GT
12SK7GT/G
12SQ7GT/G
14A7/1237
24A
25L6GT/G
25Z5
25Z6GT/G
26
27
30
35/51
35A5
35L6GT/G
35Z3
35Z5GT/G
36
37
38
39/44
41
42
43
45
47
50L6GT
50Y6GT
56
57
58
70L7GT
71A
75
76
77
78
80
83
84/6Z4
117L7/M7GT
117Z6GT/G

WARTIME TUBE SUBSTITUTION CHART FREE ON REQUEST

N. U. UNIBALLAST TUBES

10 Types Cover 80% of All Ballast Tube Replacements

List Price.....$1.00 each, All Types

. . . Ask For . . .

N. U. Uniballast Replacement Manual

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"SAV-A-SHAFT" VOLUME CONTROLS

10 Types Handle 95 Per Cent of Your Service Work

Types of National Union Midget "SAV-A-SHAFT" Controls

Type No.	Curve	Complete with	
NU 5M-A	A	5,000	Switch
NU 10M-B	B	10,000	"
NU 25M-A	A	25,000	"
NU 50M-B	B	50,000	"
NU 100M-B	B	100,000	"
NU 250M-TX	X	250,000	Switch & Tap
NU 500M-TX	X	500,000	" " "
NU 1 MEG TX	X	1 MEG	" " "
UU 2 MEG TX	X	2 MEG	" " "
NU 500 M-C-B	B	500,000	Tone Control with Switch

ALL TYPES $1.00 ea. List Price

Switch may be placed in operation by pulling out stop lug.

PACKING and HANDLING:

Each control is individually packaged in colorful N.U. carton, with full mounting instructions.

RADIO PANEL LAMPS

Lamp No.	Base	Volts	Amp.
N48	Screw	2.0*	.06
N49	Bayonet		
N49A	Bayonet	2.1*	.12
N41	Screw	2.5	.50
N43	Bayonet		
N282	Screw	2.9	.17
N282A	Bayonet		
N42	Screw	3.2	.50
N45	Bayonet		
N40	Screw	6-8†	.15
N40A-47	Bayonet		
N46	Screw	6-8†	.25
N44	Bayonet		
N50	Screw	6-8	.20
N51	Bayonet		
55	Bayonet	6-8	.40

* For "Air Cell" Receivers
† Design Voltage—6.3

FLASHLIGHT LAMPS

N14	Screw	3.8	.30
N13	Screw	2.5	.30

RADIO BATTERIES

During normal times National Union provides a complete line of popular types of replacement batteries for radios and flashlight batteries. At present the line is limited to one type, **N801—Pack.**

SOUND SYSTEMS

National Union in peace time makes available a wide choice of amplifiers including Portable Systems, Mobile Systems and School Systems. These units while not now available due to war time restrictions will be again offered to the trade after the war.

NATIONAL UNION

Research & Development

National Union has extensive research and development laboratories staffed by leading scientific perosnnel. Problems having to do with production of advanced electronic devices employing vacuum tubes may be submitted to this division for study.

The local National Union Distributor carries stocks of many kinds of materials and parts used in the electronic field. Use him as a quick source of supply, rely on him as an expediter.

Other National Union Products: Transmitting Tubes - Cathode Ray Tubes
NATIONAL UNION RADIO CORP. - - NEWARK 2, N. J. — LANSDALE, PA.

NATIONAL UNION
VIDEOTRONS

CATHODE RAY TUBES

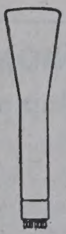
			RATINGS					PHYSICAL SPECIFICATIONS			
NU Type * (See notes below)	Heater Volts	Heater Amps.	Anode No. 3 Volts Max.	Anode No. 2 Volts Max.	Anode No. 1 Volts Max.	Grid Volts Max. No. 2	Grid No. 1 Volts Max.	Overall Length Max. Inches	Seated Height Max. Inches	Diameter Inches Max.	Deflection
2AP	6.3	.60	—	1100	550	—	NEVER POSITIVE	7⅝	$7\frac{1}{16}$	$2\frac{1}{16}$	Electrostatic
3AP	2.5	2.1	—	1650	1100	—		11⅞	11¼	$3\frac{1}{16}$	Electrostatic
3BP	6.3	.60	—	2200	1100	—		10¼	9½	$3\frac{1}{16}$	Electrostatic
3FP	6.3	.60	4400	2200	1100	—		10¼	9¼	$3\frac{1}{16}$	Electrostatic
5AP	6.3	.60	—	2200	1100	—		13⅜	$13\frac{1}{16}$	$5\frac{5}{16}$	Electrostatic
5BP	6.3	.60	—	2200	1100	—		17⅛	$16\frac{9}{16}$	$5\frac{5}{16}$	Electrostatic
5CP	6.3	.60	4400	2200	1100	—		17⅛	16⅜	$5\frac{11}{32}$	Electrostatic
5FP	6.3	.60	—	7700	—	330		11½	$10\frac{15}{16}$	$5\frac{1}{32}$	Magnetic
5LP	6.3	.60	4400	2200	1100	—		17⅛	$16\frac{9}{16}$	5⅜	Electrostatic
7BP	6.3	.60	—	7700	—	330		13⅝	$13\frac{1}{16}$	7⅛	Magnetic
7CP	6.3	.60	—	7700	2200	330		$13\frac{13}{16}$	13¼	7⅛	Magnetic
9AP	2.5	2.1	—	7000	2000	250		21⅜	20¾	8⅛	Magnetic
9CP	2.5	2.1	—	—	7000	—		15⅞	$15\frac{5}{16}$	$9\frac{1}{16}$	Magnetic
10AP	6.3	.60	—	—	7700	—		17½	$17\frac{1}{16}$	$10\frac{3}{16}$	Magnetic
902P	6.3	.60	—	660	330	—		7⅝	$7\frac{1}{16}$	$2\frac{1}{16}$	Electrostatic

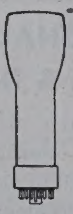
MONOTRON (Test Signal Picture Generator) 5 inch

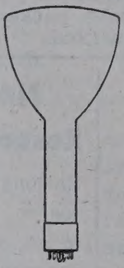
Heater Volts	Heater Amps.	Pattern Volts Max.	Collector Volts Max.	Anode No. 2 Volts Max.	Anode No. 1 Volts Max.	Grid Cut off Volts Max.	Control Grid Volts	Overall Length Max. Inches	Seated Height Max. Inches	Diameter Max. Inches	Basing	Deflection
2.5	2.1	1700	1700	1500	750	−60	Never Positive	$14\frac{3}{16}$	13⅝	$5\frac{1}{16}$	Med.–6 Pin	Magnetic

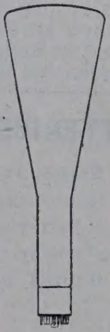
Beam Resolution (Full Scan) 500 Lines

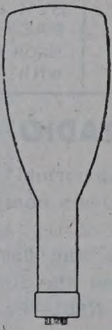
Internal Resistance between Pattern and Collector—Greater than 1 megohm


3AP


3BP-3FP


5AP


5BP-5LP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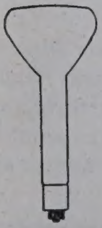
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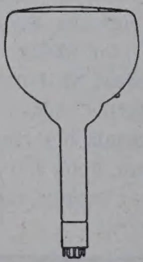
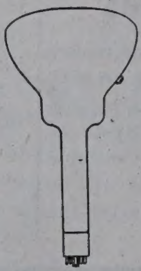
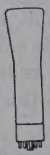
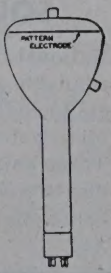

7BP


7CP-9CP


902P-2AP



Monotron

*National Union Cathode Ray Tubes can be furnished with a P1, P2, P4, P5 or P7 Screen. When ordering please specify screen desired—thus, 3BP1, 3BP2, 3BP4, 3BP5, etc.

SCREEN FLUORESCENCE CHARACTERISTICS & APPLICATIONS

P1—Green Trace
Medium Persistence
General Oscillographic

P2—Green Trace
Long Persistence
Transient, low frequency recurrent signals

P4—White Trace
Medium Persistence
General Television

P5—Blue Trace
Short Persistence
Photographic Recording

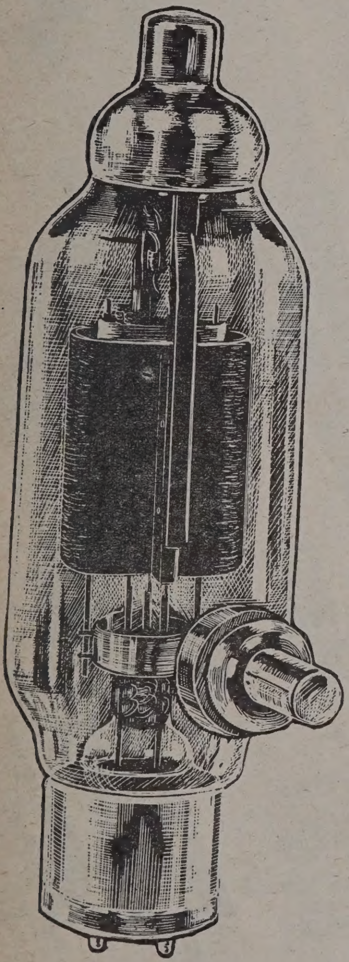
P7—Blue-Yellow Trace
Very Long Persistence
Transient, low frequency recurrent signals

NATIONAL UNION RADIO CORP. - - - - NEWARK 2, NEW JERSEY

NATIONAL UNION

TRANSMITTING and SPECIAL PURPOSE RADIO-ELECTRONIC TUBES

Engineered and produced to meet the most exacting requirements of such users as the Army and Navy these National Union tubes offer an assurance to the purchaser that they are scientifically correct. War time restrictions do not permit the disclosure of many improvements in performance made possible by National Union research and engineering techniques. Inquiries are invited for availability information on types not listed but which may be required for speial applications.



TYPES

NU2C22
NU2C26
NU2C26A
NU2C34
NU30Z
NU31Z
NU34
NU40T
NU40TZ
NU51A
NU51Z
NU60
NU69
NU75H
NU114B
NU200
NU211
NU300
NU307A
NU350A
NU350B
NU371B
NU615
NU801A/801
NU805
NU807
NU809
NU811
NU812
NU816
NU829B
NU832A
NU836
NU845
NU866 Jr.
NU866A/866
NU872
NU872A
NU873
NUE1148
NU1201
NU1203A
NU1623
NU1625
NU1626
NU7193

NATIONAL UNION PHOTOTUBES

26 TYPES . . . Gas Filled and Vacuum

Sensitivity Range from 12 to Over 300 ua. per lumen

High Frequency, Motion Picture, Relay & Industrial Applications

Longer Life: Due to fine materials, rigid standards, design for severe service.

Higher Ionization Point: National Union phototubes have a much higher ionization voltage point thus offering a wider efficient operating range than competitive tubes with an ionization point at 100 volts. Natonal Union wide operation range avoids critical voltage adjustments.

Greater Output Current: At a voltage 10% below ionization voltage, output current is greater than that of competitive tubes tested under similar conditions—consequently higher output at rated 90 volts operating voltage.

Wider Frequency Response: Practically straight line response over a wide range of frequency. Less than 2 db. loss in audio frequency range with consequent higher fidelity.

Fortified Against High Ambient Temperatures.

Non-Microphonic.

Clear Glass Bulbs: Specially selected. True light source variation without distortion.

Low Dark Current.

Write for Technical Data Catalog PT-3-44.

OTHER NATIONAL UNION PRODUCTS

Cathode Ray Tubes, Receiving Tubes, Condensers, Volume Controls, Phototubes, Exciter Lamps, Panel Lamps, Flashlight Bulbs, Ballasts

NATIONAL UNION RADIO CORP. - - - - NEWARK 2, NEW JERSEY

KEN-RAD

ELECTRON TUBES

80
6H6
KEN-RAD
MADE IN U.S.A.
6L6
803
807
2C22
6K7
6K8
813
9001
6C4
810
5BP4
832A
5Y3 GT/G
829B

KEN-RAD

OWENSBORO · KENTUCKY

ARCTURUS

"KNOWN THE WORLD OVER"

STANDARD ARCTURUS CORPORATION

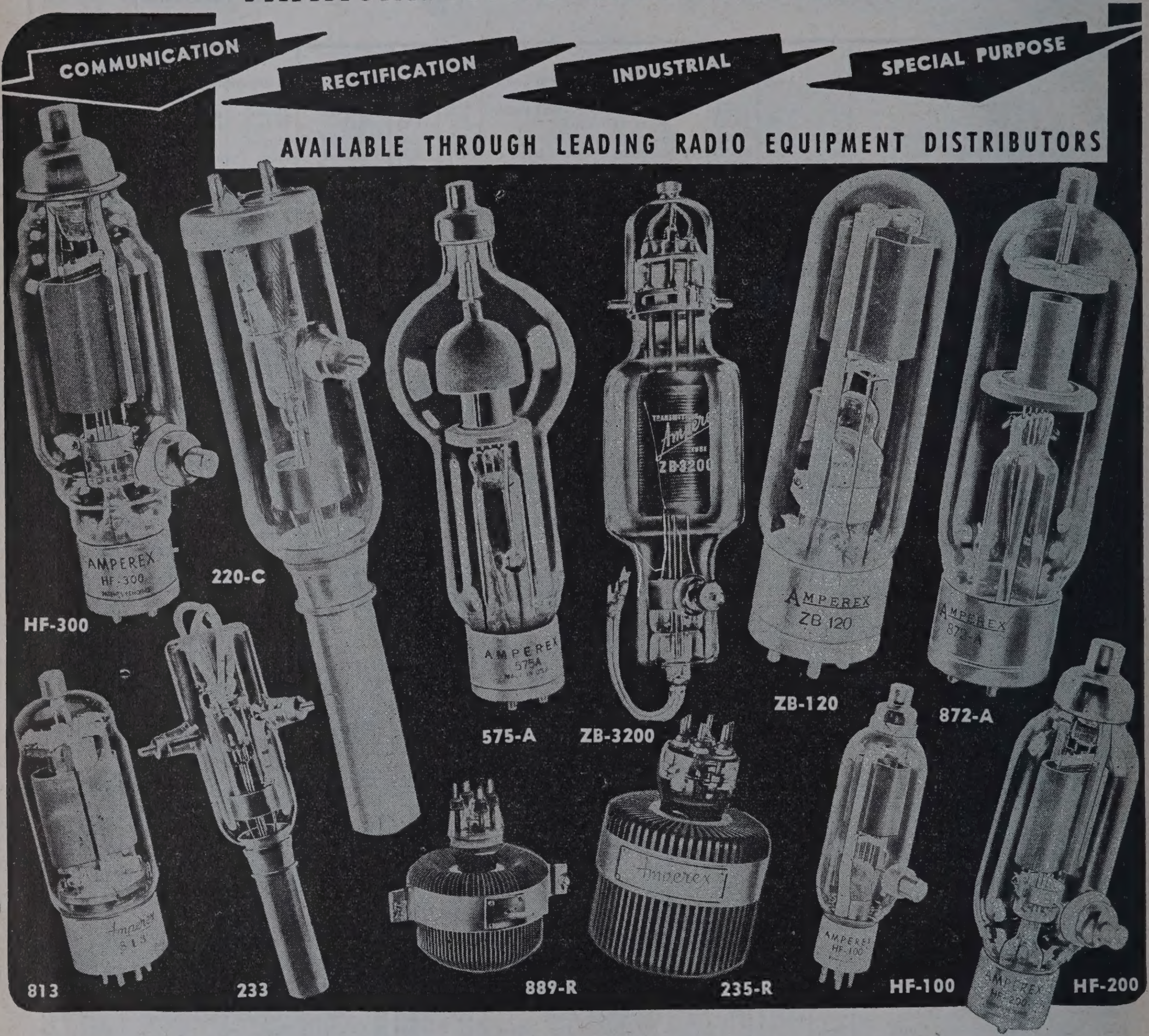
ALWAYS IN THE ELECTRONICS FOREGROUND **TUBE PIONEERS**

Type	Description and Use	Volts	List	Type	Description and Use	Volts	List	Type	Description and Use	Volts	List
XXD	Duotriode Amp.	12.6	$1.60	6J8G	Tri-Heptode Mixer Oscil.	6.3	1.60	12SJ7GT	Pentode Amp.	12.6	1.10
XXL	Triode Amp.	6.3	1.60	6K5G	Triode Amplifier	6.3	1.10	12SK7	Pentode Amp.	12.6	1.00
0Z4 0Z4G	Duodiode F-W Rect.	0.0	1.60	6K5GT	Triode Amplifier	6.3	1.00	12SK7GT/G	Pentode Amp.	12.6	1.10
1A4P	Pentode R-F Amp.	2.0	1.60	6K6GT/G	Pentode Power Amp.	6.3	1.00	12SL7GT	Amp. Twin Triode	12.6	1.60
1A5GT/G	Pentode Power Amp.	1.4	1.10	6K7	Pentode Amplifier	6.3	1.10	12SN7GT	Amp. Twin Triode	12.6	1.30
1A6	Pentagrid Converter	2.0	1.30	6K7G	Pentode Amplifier	6.3	1.10	12SQ7	Duodiode Tri. Det-Amp.	12.6	1.10
1A7GT/G	Pentagrid Converter	1.4	1.30	6K7GT	Pentode Amp.	6.3	1.00	12SQ7GT/G	Duodiode Tri. Det.-Amp.	12.6	1.10
1B5/25S	Duodiode Tri. Detector	2.0	1.30	6K8	Tri-Hexode Mixer Osc.	6.3	1.30	12SR7GT	Duodiode Tri. Amp.	12.6	1.30
1C5GT/G	Pentode Power Amp.	1.4	1.30	6K8G GT	Tri-Hexode Mixer Osc.	6.3	1.30	12Z3	Diode H. W. Rect.	12.6	1.00
1C6	Pentagrid Converter	2.0	1.30	6L6 6L6G	Tetrode Power Amp.	6.3	1.95	14A4	Triode Amp.	12.6	1.30
1C7G	Pentagrid Converter	2.0	1.30	6L7	Pentagrid Mixer Amp.	6.3	1.60	14A7/12B7	Pentode Amp.	12.6	1.95
1D5G-P	Pentode R-F Amp.	2.0	1.30	6L7G	Pentagrid Mixer Amp.	6.3	1.60	14B6	Duodiode Tri.	12.6	1.60
1G4GT/G	Triode Amplifier	1.4	1.30	6N6G	Duotriode Power Amp.	6.3	2.35	14B8	Heptode	12.6	1.30
1H4G	Triode Det. Amp.	2.0	1.00	6N7G	Duotriode Power Amp.	6.3	1.60	14C5	Beam Amplifier	12.6	2.35
1H5G	Diode-Triode Det., Amp.	1.4	1.30	6N7G GT	Power Output Amp.	6.3	1.60	14C7	Pentode Amp.	12.6	1.95
1H5GT	Diode-Triode Det., Amp.	1.4	1.10	6Q7	Duodiode Tri.	6.3	1.30	14F7	Duo. Triode	12.6	1.95
1H6G	Duodiode Tri. Det., Amp.	2.0	1.30	6Q7G GT	Duodiode Tri. Det.-Amp.	6.3	.90	14H7	Pentode Amp.	12.6	1.95
1L4	Pentode R-F Amp.	1.4	1.60	6R7	Duodiode Tri. Det.-Amp.	6.3	1.60	14J7	Heptode Tri.	12.6	1.95
1LA4	Pentode Power Amp.	1.4	2.35	6R7G	Duodiode Tri. Detector	6.3	1.10	14N7	Duo. Triode	12.6	1.95
1LA6	Pentagrid Converter	1.4	2.35	6R7GT	Duodiode Tri. Detector	6.3	.90	14Q7	Pentagrid Converter	12.6	1.60
1LB4	Pentode Power Amp.	1.4	2.35	6SA7	Pentagrid Converter	6.3	1.00	14R7	Diode-Pent. Amp.	12.6	2.35
1LC5	Pentode Amplifier	1.4	2.35	6SA7GT/G	Pentagrid Converter	6.3	1.10	14S7	Heptode Tri.	12.6	1.95
1LC6	Pentagrid Converter	1.4	2.35	6SC7	Duotriode Amplifier	6.3	1.30	14W7	Pentode	12.6	2.35
1LD5	Diode Pent. Amp.	1.4	2.35	6SD7GT	Pentode Amp.	6.3	1.30	14Y4	Duo. Diode	12.6	1.95
1LE3	Triode Amplifier	1.4	1.95	6SF5	Triode Amplifier	6.3	1.00	19	Duotriode Power Amp.	2.0	1.30
1LH4	Diode-Tri. Amp.	1.4	2.35	6SF5GT	Triode Amplifier	6.3	1.00	24A	Tetrode R-F Amp.	2.5	.90
1LN5	R. F. Amplifier	1.4	2.35	6SH7GT	Pentode R-F Amp.	6.3	1.30	25A6GT/G	Pentode Power Amp.	25.0	1.10
1N5GT/G	Pentode R-F Amp.	1.4	1.30	6SJ7	Pentode Amplifier	6.3	1.10	25A7GT/G	Diode-Pent. H-W Rect.	25.0	1.60
1P5GT/G	Pentode Amplifier	1.4	1.60	6SJ7GT	Pentode Amplifier	6.3	1.10	25AC5GT/G	Triode Power Amp.	25.0	1.60
1Q5GT/G	Tetrode Power Amp.	1.4	1.60	6SK7	Pentode Amplifier	6.3	1.00	25B8GT	Pentode Tri. Pent. Amp.	25.0	1.95
1R5	Heptode Converter	1.4	1.60	6SK7GT/G	Pentode Amplifier	6.3	1.10	25L6	Tetrode Beam Pow. Amp.	25.0	1.60
1S4	Pentode Power Amp.	1.4	1.60	6SL7GT	Amp. Twin Triode	6.3	1.60	25L6GT/G	Tetrode Power Amp.	25.0	1.10
1S5	Diode Pent. Amp.	1.4	1.60	6SN7GT	Amp. Twin Triode	6.3	1.30	25Z5	Rectifier Doubler	25.0	1.00
1T4	Pentode R-F Amp.	1.4	1.60	6SQ7	Duodiode Tri. Det.-Amp.	6.3	1.00	25Z6GT/G	Rectifier Doubler	25.0	1.00
1T5GT	Tetrode Power Amp.	1.4	1.60	6SQ7GT/G	Duodiode Tri. Det.-Amp.	6.3	1.10	26	Triode Amp.	1.5	.75
IV	Diode H-W Rect.	6.3	1.00	6SR7	Duodiode Tri. Det.-Amp.	6.3	1.10	27	Triode Amp.	2.5	.70
2A3	Triode Power Amp.	2.5	1.60	6U5/6G5	Triode Indicator	6.3	1.30	30	Triode Det.-Amp.	2.0	1.00
2A4G	Gas Triode	2.5	2.35	6U7G	Pentode Amplifier	6.3	1.00	32	Tetrode R-F Amp.	2.0	1.30
2A5	Pentode Power Amp.	2.5	1.00	6V6GT/G	Tetrode Power Amp.	6.3	1.10	32L7GT	Diode. Tet. Rect.	32.5	1.95
2A6	Duodiode Tri. Det. Amp.	2.5	1.00	6X5GT/G	Duodiode F-W Rect.	6.3	1.00	33	Pentode Power Amp.	2.0	1.30
2A7	Pentagrid Converter	2.5	1.10	7A4	Triode Amplifier	6.3	1.30	34	Pentode R-F Amp.	2.0	1.30
2B7	Duodi. Pent. R-F or 1-F	2.5	1.30	7A5	Tetrode Power Amp.	6.3	1.30	35/51	Tetrode R-F Amp.	2.5	1.00
3A4	Pentode Power Amp.	1.4	1.60	7A6	Duodiode Det.-Rect.	6.3	1.30	35A5	Tetrode Power Amp.	35.0	1.30
3Q4	Pentode Power Amp.	1.4	1.60	7A7	Pentrode Amplifier	6.3	1.30	35L6GT/G	Tetrode Power Amp.	35.0	1.00
3Q5GT/G	Tetrode Power Amp.	1.4	1.60	7A8	Octode Converter	6.3	1.30	35Z3	Diode H-W Rect.	35.0	1.30
3S4	Tetrode Power Amp.	1.4	1.60	7B4	Triode Amplifier	6.3	1.30	35Z4GT	Diode H-W Rect.	35.0	.80
5U4G	Duodiode F-W Rect.	5.0	1.00	7B5	Pentode Power Amp.	6.3	1.30	35Z5GT/G	Diode H-W Rect.	35.0	.85
5V4G	Duodiode F-W Rect.	5.0	1.60	7B6	Duodiode Tri. Amplifier	6.3	1.30	36	Tetrode R-F Amp.	6.3	1.00
5W4GT/G	Duodiode F-W Rect.	5.0	.90	7B7	Pentode Amplifier	6.3	1.30	37	Triode Amp.	6.3	.85
5X4G	Duodiode F-W Rect.	5.0	1.10	7B8	Pentagrid Converter	6.3	1.30	38	Pentode Power Amp.	6.3	1.10
5Y3GT/G	Duodiode F-W Rect.	5.0	.70	7C5	Tetrode Power Amp.	6.3	1.30	39/44	Pentode R-F Amp.	6.3	1.00
5Y4G	Duodiode F-W Rect.	5.0	.75	7C6	Duodiode Tri. Amp.	6.3	1.30	45Z5GT	Diode H-W Rect.	45.0	1.10
5Z3	Duodiode F-W Rect.	5.0	1.10	7C7	Pentode Amp.	6.3	1.30	41	Pentode Power Amp.	6.3	.85
5Z4	Duodiode F-W Rect.	5.0	1.30	7E6	Duodiode Tri. Amp.	6.3	1.30	42	Pentode Power Amp.	6.3	.85
6A3	Triode Power Amp.	6.3	1.95	7E7	Duodi. Pent. Amp.	6.3	1.60	43	Pentode Power Amp.	25.0	1.10
6A6	Duotriode Power Amp.	6.3	1.60	7F7	Duotriode Amp.	6.3	1.60	45	Triode Power Amp.	2.5	.80
6A7	Pentagrid Converter	6.3	1.00	7G7/1232	Pentode Amp.	6.3	1.95	46	Tetrode Power Amp.	2.5	1.10
6A8	Pentagrid Converter	6.3	1.30	7H7	Pentode Amp.	6.3	1.95	47	Pentode Power Amp.	2.5	1.10
6A8G, GT	Pentagrid Converter	6.3	1.00	7J7	Tri.-Hexode Hex. Mixer	6.3	1.95	50	Triode Power Amp.	7.5	2.35
6AC5GT/G	Triode Power Amp.	6.3	1.10	7L7	Pentode Amp.	6.3	1.95	50L6GT	Tetrode Power Amp.	50.0	1.10
6AC7/1852	Pentode Amplifier	6.3	2.35	7N7	Duotriode Amp.	6.3	1.95	50Y6GT/G	Duodiode F. W. Rect.	50.0	1.10
6AE5GT/G	Triode Amplifier	6.3	1.30	7Q7	Pentagrid Converter	6.3	1.30	50Z7GT/G	Duodiode Doubler	50.0	1.30
6B4G	Power Amp. Triode	6.3	1.95	7R7	Diode-Pent. Amp.	6.3	1.95	55	Duodiode Tri.-Det. Amp.	2.5	1.10
6B5	Power Output Amp.	6.3	1.95	7S7	Tri.-Heptode Hep. Mixer	6.3	1.95	56	Triode Amp.	2.5	.80
6B7	Duodi. Pent. R-F or 1-F A.	6.3	1.30	7V7	Pentode Amp.	6.3	2.35	57	Pentode Amp.	2.5	.90
6C5GT/G	Triode Amplifier	6.3	1.00	7W7	Pentode Amp.	6.3	1.95	58	Pentode Amp.	2.5	.90
6C6	Triple Grid Det. Amp.	6.3	1.00	7Y4	Duodiode F. W. Rect.	6.3	1.30	70A7GT	Rect. Beam Pow. Amp.	70.0	2.35
6C8G	Duotriode Amp. Inverter	6.3	1.60	7Z4	Duodiode F. W. Rect.	6.3	1.30	70L7GT	Diode-Tet. Rect.	70.0	1.95
6D6	Pentode Amplifier	6.3	1.00	12A7	Diode-Pent. Rect. Amp.	12.6	1.95	71A	Triode Power Amp.	5.0	.90
6D8G	Pentagrid Converter	6.3	1.60	12A8GT	Pentagrid Converter	12.6	1.00	75	Duodiode-Tri. Det. Amp.	6.3	.85
6E5	Triode Indicator	6.3	1.10	12AH7GT	Amp. Twin Triode	12.6	1.30	76	Triode Amp.	6.3	.90
6F5GT/G	Triode Amplifier	6.3	1.00	12B8GT	Pentode Tri. Pent. Amp.	12.6	1 60	77	Pentode Amp.	6.3	.90
6F6	Pentode Power Amp.	6.3	1.10	12C8	Pentode R-F	12.6	1.95	78	Pentode Amp.	6.3	.90
6F6G	Pentode Power Amp.	6.3	.90	12J5GT	Triode Amp.	12.6	1.00	80	Duodiode F-W Rect.	5.0	.70
6F7	Pent. Triode Pent. Amp.	6.3	1.60	12J7GT	Pentode Amp.	12.6	1.10	82	Duodiode F-W Rect.	2.5	1.30
6F8G	Duotriode Amp. Inverter	6.3	1.30	12K7GT/G	Pentode Amp.	12.6	1.00	83	Duodiode F-W Rect.	5.0	1.30
6G6G	Pentode Power Amp.	6.3	1.30	12Q7GT	Duodiode-Tri. Det. Amp.	12.6	.90	83V	Duodiode F-W Rect.	5.0	1.95
6H6GT/G	Twin Diode	6.3	1.10	12SA7	Pentagrrd Converter	12.6	1.00	84/6Z4	Duodiode F-W Rect.	6.3	1.10
6J5GT/G	Triode Amplifier	6.3	.90	12SA7GT/G	Pentagrid Converter	12.6	1.30	85	Duodiode Tri. Det.-Amp.	6.3	.90
6J7	Pentode Amplifier	6.3	1.30	12SC7	Duotriode Amp.	12.6	1.30	117L7GT	Diode-Tet. H. W. Rect.	117.	2.35
6J7G GT	Pentode Amplifier	6.3	1.10	12SF5GT	Triode Amp.	12.6	1.10	117N7GT	Diode-Tet. H-W Rect.	117.	2.35
				12SJ7	Pentode Amp.	12.6	1.10	117Z6GT/G	Duodiode Doubler	117.	1.60

Cathode-Ray, Industrial, Special Purpose and Transmission Tube prices and data on request. Ask for confidential discounts.

AMPEREX WATER AND AIR COOLED

TRANSMITTING AND RECTIFYING TUBES


COMMUNICATION
RECTIFICATION
INDUSTRIAL
SPECIAL PURPOSE
AVAILABLE THROUGH LEADING RADIO EQUIPMENT DISTRIBUTORS
HF-300
220-C
575-A
ZB-3200
ZB-120
872-A
813
233
889-R
235-R
HF-100
HF-200

FORCED-AIR COOLED TYPES

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
220R†	$410.00	21.5	57.0
228R†	374.00	21.5	41.0
232R†	605.00	20.0	72.0
233R†	600.00	24.0	70.0
235R	170.00	14.5	39.0

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
889R*	$325.00	11.0	125.0
891R†	410.00	11.0‡	60.0
892R†	410.00	11.0‡	60.0
HF3000§	300.00	21.5	40.5
ZB3200§	300.00	21.5	40.5

*$50.00 credit will be allowed against purchase of new tube if radiator and crate are returned in good condition.

‡Single or two-phase filament (two units); voltage is per unit.

§All glass radiation and air-cooled transmitting tubes.

†$100.00 credit will be allowed against purchase of new tubes if radiator and crate are returned in good condition.

RADIATION COOLED TYPES

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
AB-150	$15.00	10.0	3.25
HF- 60	5.75	10.0	2.50
HF- 75	8.00	10.0	3.25
HF-100	12.50	10.0	2.50
HF-120	15.00	10.0	3.25
HF-125	17.50	10.0	3.25
HF-130	17.50	10.0	3.25
HF-140	15.00	10.0	3.25
HF-150	17.50	10.0	3.25
HF-175	19.00	10.0	4.00
HF-200	24.50	10.5	4.00
HF-250	27.50	10.5	4.00
HF-300	35.00	11.0	4.00
ZB-120	10.00	10.0	2.00
111H	12.50	10.0	2.50
203A	10.00	10.0	3.25
203H	17.50	10.0	3.25
204A	85.00	11.0	3.85
211	10.00	10.0	3.25
211C	17.50	10.0	3.25
211D	15.00	10.0	3.25
211H	17.50	10.0	3.25
212E	70.00	14.0	6.00
241B	85.00	14.0	6.00
242C	12.00	10.0	3.25

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
251A	$300.00	10.0	16.00
261A	17.50	10.0	3.25
270A	168.00	10.0	9.75
276A	12.00	10.0	3.00
279A	300.00	10.0	21.00
304B	12.50	7.5	3.25
308B	75.00	14.0	6.00
801A	2.50	7.5	1.25
803	25.00	10.0	5.0
805	10.00	10.0	3.25
810	13.50	10.0	4.50
813	18.00	10.0	5.0
830	8.75	10.0	2.50
830B	10.00	10.0	2.50
833A	62.50	10.0	10.00
834	12.50	7.5	3.25
838	9.00	10.0	3.25
841	3.25	7.5	1.25
842	3.25	7.5	1.50
845	10.00	10.0	3.25
849	120.00	11.0	5.00
849A	135.00	11.0	7.70
849H	135.00	11.0	7.70
851	160.00	11.0	15.50
852	16.40	10.0	3.25
8005	7.00	10.0	3.25

Type 203H fully interchangeable with Amperex HF125

Type 211C fully interchangeable with Amperex HF130

Type 211H fully interchangeable with Amperex HF150

WATER COOLED TYPES

TYPE NO.	PRICE	FILAMENT		TYPE NO.	PRICE	FILAMENT		TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.			Volts	Amps.			Volts	Amps.
207	$220.00	22.0	52.0	334	$500.00	24.0	70.0	858	$275.00	22.0	52.0
220C	290.00	21.5	41.0	342A	480.00	20.0	67.0	859	400.00	11.0‡	71.0
228A	249.00	21.5	41.0	343A	290.00	21.5	57.5	889	160.00	11.0	125.0
232C	480.00	20.0	72.0	520B	210.00	22.0	34.0	891	170.00	11.0‡	60.0
233	475.00	24.0	70.0	846	200.00	11.0	51.0	892	170.00	11.0‡	60.0

‡Single or two-phase filament (two units); voltage is per unit.

WATER COOLED—HIGH VACUUM RECTIFIERS

TYPE NO.	PRICE	FILAMENT		TYPE NO.	PRICE	FILAMENT		TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.			Volts	Amps.			Volts	Amps.
222A	$220.00	21.5	41.0	237A	$435.00	20.0	61.0	562	$275.00	22.0	52.0

MERCURY VAPOR RECTIFIERS

TYPE NO.	PRICE	FILAMENT		TYPE NO.	PRICE	FILAMENT		TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.			Volts	Amps.			Volts	Amps.
249B	$ 5.00	2.5	7.50	267B	$23.00	5.0	6.75	866/866A	$ 1.50	2.5	5.00
258B	9.85	2.5	7.50	315A	35.00	5.0	10.00	869B	100.00	5.0	20.00
266B	160.00	5.0	42.0	575A	30.00	5.0	10.00	872/872A	7.50	5.0	6.75
				857B	160.00	5.0	40.00				

RADIATION COOLED HIGH VACUUM RECTIFIERS

TYPE NO.	PRICE	FILAMENT		TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.			Volts	Amps.
217C	$20.00	10	3.25	404	$140.00	20	35
221A	15.00	5	10	8020	15.00	5	6

WATER JACKETS

TYPE NO.	PRICE	Suitable for these Amperex types:
DW-1580	$50	207, 848, 863, 891, 892.
DW-2000	50	220C, 222A, 232C, 233, 237A, 342A, 343A.
DW-2500	150	858, 859.

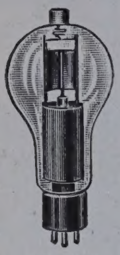
NOTE: Amperex Water Jackets fit interchangeable tube types of other makers.

GENERAL GUARANTEE—Amperex tubes are guaranteed against all mechanical and electrical defects for a period of 1000 hours within one year from date of sale if operated in accordance with the ratings and within specified limits. They are not guaranteed against glass or filament breakage. Should a tube fail in normal operation, it should be returned to the manufacturer for examination, with a statement giving the number of hours used and the type of circuit in which it was installed. In returning tubes for adjustment the customer gives permission to the Amperex Electronic Corporation to break the glass bulb and to dissect the structure of the tube in case such procedure is considered necessary for complete examination. A pro rata adjustment or replacement will be made if the defect is found to be due to a manufacturing defect. ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

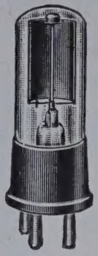
AMPEREX ELECTRONIC CORPORATION

WESTINGHOUSE ELECTRONIC TUBES

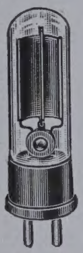
PHOTOTUBES



WL-767
WL-773
WL-775



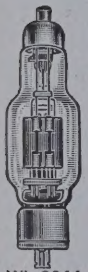
SR-50
SR-53



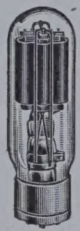
WL-734 WL-735

Type Number	Spectral Ranges Au.	Vacuum or Gas	Cathode Surface	Sensitivity Micro-amperes per lumen	Anode Volts, Max.	Price	Data Sheet
SR-50	4000 11000	Vac.	S1	15	500	**$5.00**	86–055
SR-53	4000 11000	Vac.	S1	25	500	**7.50**	
SK-60	4000 11000	Gas	S1	60	90	**5.00**	86–059
SK-63	4000 11000	Gas	S1	125	90	**7.50**	
WL-734	4000 11000	Vac.	S1	15	500	**2.60**	86–070
WL-735	4000 11000	Gas	S1	60	90	**2.60**	
WL-767	2000 3150	Vac.	Zirconium	....	500	**50.00**	86–080
WL-773	2000 3675	Vac.	Thorium	....	500	**50.00**	
WL-775	2000 3000	Vac.	Tantalum	....	500	**50.00**	
WL-789	Below 2100	Vac.	Platinum	....	500	**75.00**	

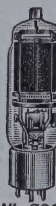
PLIOTRONS — Modulators, Amplifiers, Oscillators



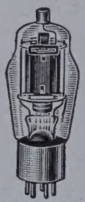
WL-204A



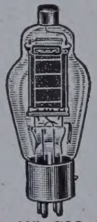
WL-211



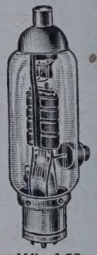
WL-803



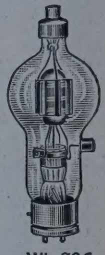
WL-807



WL-809



WL-460

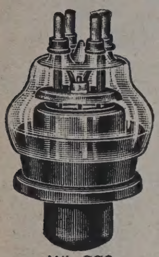


WL-806

Type Number	FILAMENT		PLATE MAXIMUMS Class C				Amplification Factor	Max. MC for 100% Input	Price	Data Sheet
	Volts	Amps.	D.C. Volts	D.C. Ma.	Dissipation Watts	Output Watts				
WL-195	10.0	3.25	3000	150	125	325	12	15	**$26.00**	86–110
WL-196	10.0	3.25	3000	150	125	325	35	15	**26.00**	86–111
WL-203A	10.0	3.25	1250	175	100	120	25	15	**10.00**	86–115
WL-204A	11.0	3.85	2500	275	250	450	23	3	**85.00**	86–116
WL-207	22.0	52.0	15000	2000	10000	20000	20	1.6	**220.00**	86–119
WL-211	10.0	3.25	1250	175	100	130	12	15	**10.00**	86–122
WL-460	10.0	3.85	3000	200	150	450	18	30	**26.00**	86–130
WL-463	11.0	5.0	2500	275	200	550	22	30	**37.00**	86–133
WL-468	10.0	3.85	2500	200	150	400	18	6	**24.75**	86–138
WL-473	6.0	60.0	3000	1400	2500	3250	22	20	**125.00**	86–143
RH-507	2.0	0.06	9	0.006	....	....	0.8	....	**24.50**	86–150
WL-802	6.3	0.9	600	60	13	23	....	30	**3.50**	86–165
WL-803	10.0	5.0	2000	175	125	225	....	20	**25.00**	86–166
WL-805	10.0	3.25	1500	210	125	215	50	30	**10.00**	86–168
WL-806	5.0	9.5	3000	200	225	780	12.6	30	**22.00**	86–169
WL-807	6.3	0.9	600	100	30	50	....	60	**1.95**	86–170
WL-809	6.3	2.5	750	100	30	75	50	60	**2.50**	86–172
WL-810	10.0	4.5	2000	250	150	475	36	30	**13.50**	86–173
WL-811	6.3	4.0	1250	125	55	170	160	60	**3.50**	86–174
WL-812	6.3	4.0	1250	125	55	170	29	60	**3.50**	86–175
WL-813	10.0	5.0	2000	180	100	260	....	30	**18.00**	86–176
WL-814	10.0	3.25	1250	150	65	160	....	30	**14.00**	86–177
WL-815	6.3	1.6	400	150	25	56	....	150	**4.50**	86–178
WL-828	10.0	3.25	1250	160	80	200	....	30	**14.25**	86–185

Net

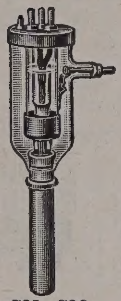
WESTINGHOUSE ELECTRONIC TUBES

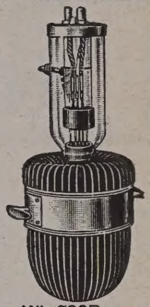

WL-880

WL-889

PLIOTRONS—Cont'd

MODULATORS
AMPLIFIERS
OSCILLATORS


WL-891, 892


WL-892R

Type Number	FILAMENT		PLATE MAXIMUMS Class C				Amplification Factor	Max. MC for 100% Input	Price	Data Sheet
	Volts	Amps.	D.C. Volts	D.C. Ma.	Dissipation Watts	Output Watts				
WL-833A	10.0	10.0	4000	500	450	1600	35	30	**$62.50**	86–188
WL-837	12.6	0.7	500	80	12	22	....	20	**2.80**	86–190
WL-838	10.0	3.25	1250	175	100	130	54	30	**9.00**	86–191
WL-845	10.0	3.25	1250	120	100	115	5.3	6	**10.00**	86–195
WL-849	11.0	5.0	2500	350	400	510	19	3	**120.00**	86–199
WL-851	11.0	15.5	2500	1000	750	1750	20.5	3	**160.00**	86–201
WL-860	10.0	3.25	3000	150	100	200	....	30	**18.75**	86–205
WL-861	11.0	10.0	3500	350	400	800	....	20	**155.00**	86–206
WL-880	12.6	320.0	10500	6000	20000	45000	20	25	**350.00**	86–210
WL-889	11.0	125.0	8500	2000	5000	11000	21	50	**160.00**	86–215
WL-889R	11.0	125.0	8500	2000	5000	11000	21	25	**280.00**	86–216
WL-891	*22.0	60.0	12000	2000	6000	12000	8	1.6	**170.00**	86–218
WL-891R	*22.0	60.0	10000	2000	4000	11000	8	1.6	**345.00**	86–219
WL-892	*22.0	60.0	15000	2000	10000	20000	50	1.6	**170.00**	86–220
WL-892R	*22.0	60.0	12500	2000	4000	14000	50	1.6	**345.00**	86–221
WL-893A	†20.0	183.0	20000	4000	20000	50000	36	5	**450.00**	86–222
WL-893AR	†20.0	183.0	20000	4000	20000	50000	36	5	**800.00**	86–223
WL-895	‡19.0	138.0	17000	9000	40000	100000	37	6	**950.00**	86–225
WL-895R	‡19.0	138.0	17000	9000	20000	84000	37	6	**1250.00**	86–226
WL-899A	14.5	180.0	18000	5000	30000	35000	27	5	**750.00**	86–230

* Two filament strands in series with large post at neutral junction; operate in series or two phase.
† Six filament strands, connected each post to floating neutral, 61 amperes per strand.
‡ Three filament strands connected from black posts to neutral center post.
R—Indicates Air-Cooled Radiator.

KENOTRONS — Vacuum Rectifiers

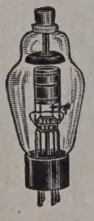
Type Number	FILAMENT		ANODE			Type of Cooling	Price	Data Sheet
	Volts	Amperes	Volts, Peak Inverse	Amps. Peak	Amps. Average			
WL-456	11.0	20.0	140000	0.50	0.06	Air	**$95.00**	86–305
WL-531	11.5	20.0	50000	0.75	0.29	Forced air	**125.00**	86–310
WL-579B	2.5	6.0	20000	0.27	0.025	Air	**9.50**	86–315
RO-585	5.0	1.1	1500	0.011	0.003	Air	**12.00**	86–320
WL-608	10.0	10.0	60000	0.20	0.06	Oil	**120.00**	86–325
WL-612	10.0	50.0	150000	0.75	0.24	Air	**195.00**	86–329
WL-613	11.0	10.0	140000	0.20	0.06	Air	**150.00**	86–330
WL-616	20.0	24.5	150000	1.00	0.25	Air	**140.00**	86–333
WL-660	10.0	10.0	230000	0.10	0.03	Air	**200.00**	86–338

WL-531

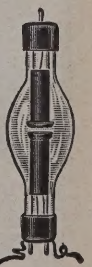
WL-872A

PHANOTRONS — Gas and Mercury Vapor Rectifiers

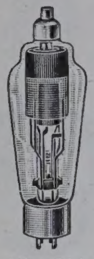
Type Number	FILAMENT		ANODE			Type of Cooling	Price	Data Sheet
	Volts	Amperes	Volts, Peak Inverse	Amps. Peak	Amps. Average			
WL-670A	2.5	24.0	1000	9.5	6.0	Air	**$15.00**	86–355
WL-857B	5.0	30.0	22000	40.0	10.0	Forced Air	**160.00**	86–360
WL-866A/866	2.5	5.0	10000	1.0	0.25	Air	**1.50**	86–365
WL-869B	5.0	18.0	20000	10.0	2.5	Forced Air	**100.00**	86–368
WL-872A/872	5.0	7.5	10000	5.0	1.25	Air	**7.50**	86–371
WL-881	5.0	9.5	15000	15.0	5.0	Forced Air	**100.00**	86–380


WL-866A /866

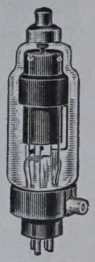
WL-660


WL-456

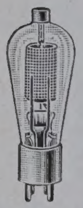
WESTINGHOUSE ELECTRONIC TUBES



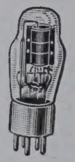
WL-632A



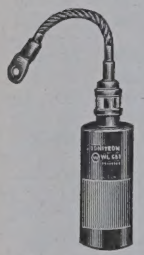
KU-676



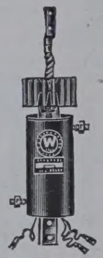
KU-627



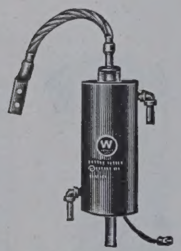
WL-629



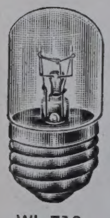
WL-681/686



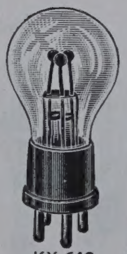
WL-653B



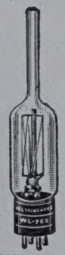
WL-651/656



WL-710
WL-711
WL-712
WL-788
WL-896



KX-642



WL-762

THYRATRONS

GRID CONTROLLED GAS OR MERCURY VAPOR RECTIFIERS

Type Number	FILAMENT		ANODE			Gas	Control	Price	Data Sheet
	Volts	Amps.	Volts, Peak Inverse	Amps. Peak	Amps. Ave.				
WL-414	5.0	20.0	2000	100.0	12.5	Hg.	Neg.	**$70.00**	86–405
KU-610	2.5	6.5	500	0.4	0.1	Inert	Pos.	**17.50**	86–410
KU-618*	Cold	Cath.	800	0.1	0.015	Inert	Pos.	**9.50**	86–415
KU-627	2.5	6.0	2500	2.5	0.64	Hg.	Neg.	**11.00**	86–420
KU-628	5.0	11.5	2500	8.0	2.0	Hg.	Neg.	**22.00**	86–421
WL-629	2.5	2.6	350	0.2	0.04	Inert	Neg.	**4.50**	86–422
WL-631	5.0	4.5	1000	15.0	2.5	Hg.	Neg.	**13.50**	86–424
WL-632A	5.0	6.0	1500	30.0	2.5	Hg.	Neg.	**16.00**	86–425
KU-636	2.5	7.0	350	0.4	0.1	Inert	Neg.	**15.00**	86–429
WL-672	5.0	6.0	1500	30.0	2.5	Hg.	Neg.	**19.00**	86–433
KU-676	5.0	9.5	2500	40.0	6.4	Hg.	Neg.	**34.00**	86–437
WL-677	5.0	9.5	10000	15.0	4.0	Hg.	Neg.	**34.00**	86–438
WL-678	5.0	7.5	15000	6.0	1.6	Hg,	Neg.	**40.00**	86–439
WL-2050	6.3	0.6	1300	0.5	0.1	Inert	Neg.	**1.35**	86–448

* Grid Glow Tube

IGNITRONS

Type Number	Size or Service	Max. Volts RMS	Max. KVA at Average Amps.		KVA at Max. Amp.		Type of Cooling	Price	Data Sheet
			KVA	Amps.	KVA	Amps.			
WL-651/656	C	200–600	1200	75.6	400	140.0	Water	**$75.00**	86–460
WL-652/657	B	200–600	600	30.2	200	56.0	Water	**51.00**	86–461
WL-653B	Welder	2400	2400	135.0	1105	207.0	Water	**220.00**	86–462
WL-653B	Rectifier	2100	Continuous Max. Ave. Amps. 150.0						
WL-653B	Rectifier	900	Continuous Max. Ave. Amps. 200.0						
		2100	2 Hr. Ave. Amps. 225.0, 1 Min. Ave. Amps. 300						
		900	2 Hr. Ave. Amps. 300.0, 1 Min. Ave. Amps. 400						
WL-655/658	D	200–600	2400	192.0	800	355.0	Water	**165.00**	86–464
WL-679	Welder	2400	1200	75.0	600	113.0	Water	**120.00**	86–474
WL-679	Rectifier	2100	Continuous Max. Ave. Amps. 75.0						
WL-679	Rectifier	900	Continuous Max. Ave. Amps. 100.0						
		2100	2 Hr. Ave. Amps. 112.5, 1 Min. Ave. Amps. 150						
		900	2 Hr. Ave. Amps. 150.0, 1 Min. Ave. Amps. 200						
WL-681/686	A	200–600	300	12.1	100	22.4	Clamp	**30.00**	86–47 6

Ignitor Requirements 150-200 Volts—40 Amperes.

MISCELLANEOUS

Type Number	Use	Volts, RMS		Current		Price	Data Sheet
		Break-down	Max. Operating	Max. 2 Sec.	Max. 10 Min.		
KX-642	Protector	300–500	230	50 Amp.	7 Amp.	**$10.00**	86–960

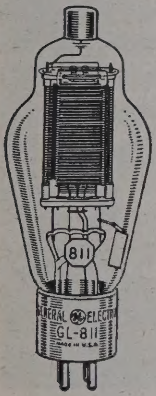
Type Number	Use	Regulating Range Filament Volts	Current			Price	Data Sheet
			Normal	Change			
				Per Volt	Total		
WL-710	Regulator	20–30	250 Ma.	1.4 Ma.	11 Ma.	**$3.00**	86–970
WL-711	Regulator	7–11	500 Ma.	4.0 Ma.	12 Ma.	**3.00**	
WL-712	Regulator	19–25	500 Ma.	3.8 Ma.	19 Ma.	**3.00**	
WL-788	Regulator	8–18	250 Ma.	1.7 Ma.	10 Ma.	**3.00**	
WL-896	Regulator	4–9	250 Ma.	2.0 Ma.	8 Ma.	**3.00**	
WL-762	Pressure Indicating	10–13	0.3 Ampere			**15.00**	86–980

ELECTRONIC TUBES
for Transmitting Service
Priced Low
Unsurpassed in Value

- General Electric has designed and built tubes to meet the most exacting requirements on land and sea and in the air for three decades. G.E. on a transmitting tube assures you of long, dependable service at low cost. Bulletin ETX-5 lists the complete G-E transmitting-tube line, together with technical data and prices. Ask for a copy.

NET PRICES

GL-203A	$10.00
GL-211	10.00
GL-800	10.00
GL-801A	2.50
GL-802	3.50
GL-803	25.00
GL-805	10.00
GL-806	22.00
GL-807	1.95
GL-809	2.50
GL-810	13.50
GL-811	3.50
GL-812	3.50
GL-813	18.00
GL-814	15.50
GL-815	4.50
GL-826	12.00
GL-828	14.25
GL-829B	17.00
GL-833A	62.50
GL-837	2.80
GL-838	9.00
GL-845	10.00
GL-866A/866	1.50
GL872A/872	7.50
GL-1623	2.50
GL-2C40	11.40
GL-2C43	9.50



FOR ECONOMICAL MEDIUM POWER

GL-811 . . . . High Mu Triode

ICAS* Class B Modulator Rating (2 tubes)

Max. Plate Volts	1500
Max. Plate Current	200 mils
Driving Power	4.2 watts
Output Power	225 watts

Net $3.50

GL-812 . . . . Low Mu Triode

ICAS* Class C Telegraph Rating

Max. Plate Volts	1500
Max. Plate Current	150 mils
Driving Power	6.5 watts
Power Output	170 watts
Max. Frequency	100 mc at reduced ratings

Net $3.50

*Intermittent Commercial and Amateur Service.

TOPS IN "50-WATTERS"

GL-838

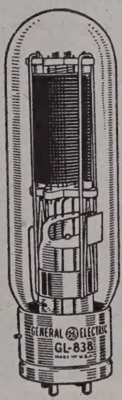
Class B Audio
260 watts output (2 tubes)

Class C Telephony
100 watts output

Class C Telegraph
130 watts output

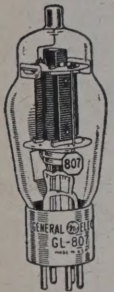
Max. Frequency
30 mc at full input
120 mc at reduced ratings

Net $9.00



G-E BEAM POWER TUBES

for More Power with Less Equipment



Low Driving Power—Quick Band Change

GL-807 . . . . Net $1.95

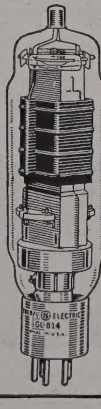
- The G-E beam tube for your low-power requirements. Oscillator, amplifier, frequency multiplier or modulator—you can't buy a more versatile performer for $2.25! Less than half a watt drives two 807's; ICAS cw output: 100 watts!

GL-814 . . . . Net $15.50

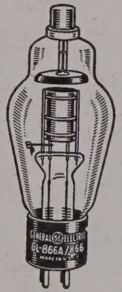
- The G-E beam power tube for any medium-power r-f application up to 30 mc. 160 watt cw 130 watts plate-modulated phone (ICAS) with 1.5 or 3.2 watts driving power respectively. A fb frequency multiplier, too. $15.50 puts one in your rig.

GL-813 . . . . Net $18.00

- The G-E beam tube for high power. It will produce 150 watts cw as a crystal oscillator, 500 watts cw with only 1 watt driving power. An excellent frequency multiplier. Makes quick band change at high power easy.



G-E MERCURY-VAPOR RECTIFIERS



GL866A/866

Net $1.50

All the sock of the 866A for the price of the 866.

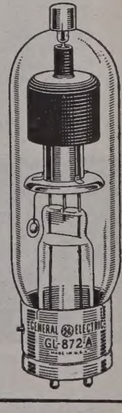
Better performance, longer life, lower cost.

Max. Peak Inverse Volts	10,000
Peak Plate Current	1 amp.
Average Plate Current	0.25 amp.

FOR HEAVY DUTY GL-872A/872

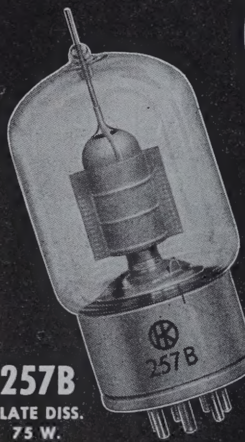
Net $7.50

Max. Peak Inverse Volts	10,000
Peak Plate Current	5 amp.
Average Plate Current	1.25 amp.

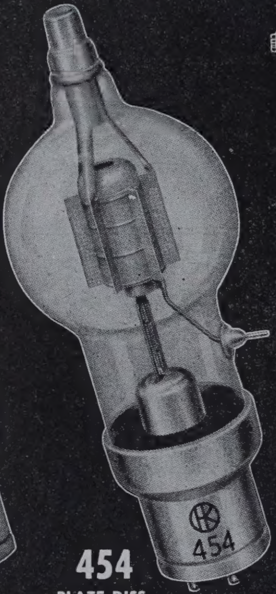


GAMMATRON TUBES

24G
PLATE DISS.
25 W.



257B
PLATE DISS.
75 W.



454
PLATE DISS.
250 W.

HEINTZ AND KAUFMAN LTD

This complete line, covering a power range of 50 to 5,000 watts, embodies 18 years of pioneering and experience in the design and manufacture of tantalum tubes.

Special plate, grid, and filament design, and new metal-to-glass seals, give Gammatrons remarkable VHF performance. Other features: ability to withstand high plate voltages, complete protection against tube failure due to overloading, and long, efficient operating life.

The Gammatron engineers responsible for these developments will be glad to help you with your special problems.

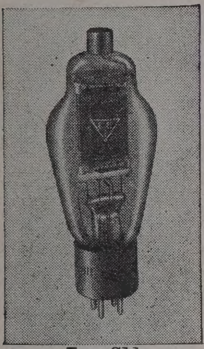
HEINTZ AND KAUFMAN
SOUTH SAN FRANCISCO LTD. CALIFORNIA U·S·A·

TYPE NO.	24	24G	54	254	•257B	304L	304H	354C	354E	454L	454H	654	854L	854H	1054L	1554	2054A	3054
MAX. POWER OUTPUT: Class 'C' R.F.	90	90	250	500	230	1220	1220	615	615	900	900	1400	1800	1820	3000	3600	2000	5300
PLATE DISSIPATION: Watts	25	25	50	100	75	300	300	150	150	250	250	300	450	450	750	1000	1200	1500
AVERAGE AMPLIFICATION FACTOR	25	25	27	25		10	19	14	35	14	30	22	14	30	13.5	14.5	10	20
MAX. RATINGS:																		
Plate Volts	2000	2000	3000	4000	4000	3000	3000	4000	4000	5000	5000	4000	6000	6000	6000	5000	3000	5000
Plate M.A.	75	75	150	225	150	1000	1000	300	300	375	375	600	600	600	1000	1000	800	2000
Grid M.A.	25	25	30	40	25	150	150	60	70	60	85	100	80	110	125	250	200	500
MAX. FREQUENCY, Mc.: Power Amplifier	200	300	200	175	150	175	175	50	50	150	150	50	125	125	100	30	20	30
INTERELECTRODE CAP:																		
C g—p u.u.f.	1.7	1.6	1.8	3.6	0.08	9	10.5	3.8	3.8	3.4	3.4	5.5	5	4	5	11	18	15
C g—f u.u.f.	2.5	1.8	2.1	3.3	10.5 In	12	14	4.5	4.5	4.6	4.6	6.2	6	8	8	15.5	15	25
C p—f u.u.f.	0.4	0.2	0.5	1.0	4.6 Out	0.8	1.0	1.1	1.1	1.4	1.4	1.5	0.5	0.5	0.8	1.2	7	2.5
FILAMENT:																		
Volts	6.3	6.3	5.0	5.0	5.0	5-10	5-10	5	5	5	5	7.5	7.5	7.5	7.5	11	10	14
Amperes	3	3	5	7.5	7.5	26-13	26-13	10	10	11	11	15	12	12	21	17.5	22	45
PHYSICAL:																		
Length, Inches	4¼	4¼	5⁷⁄₁₆	7	5¹⁵⁄₁₆	7¾	7¾	9	9	10	10	10⅜	12½	12½	16½	18	21¼	30¾
Diameter, Inches	1⅜	1⅜	2	2⅝	2⅝	3½	3½	3⅜	3⅜	3¾	3¾	3¾	5	5	7	6	6	9
Weight, Oz.	1½	1½	2½	6½	6	9	9	6½	6½	7	7	14	14	14	42	56	66	200
Base	Small UX	Small UX	Std. UX	Std. 50 Watt	Giant 7 Pin	Johnson #213	Johnson #213	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Std. 50 Watt	Johnson #214	HK 255	W.E. Co.	HK 255

*Beam Pentode.

WRITE FOR FULL DATA ON ALL **GAMMATRONS**

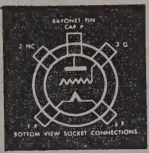
ELECTRONIC ENTERPRISES • INC
Power and Transmitting Tubes
FOR ALL INDUSTRIAL AND ELECTRONIC APPLICATIONS



Type 811

Type 811 TRANSMITTING TRIODE ZIRCONIUM COATED ANODE

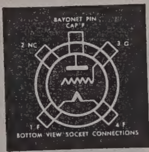
EE-811 is a high-mu transmitting triode with a normal plate dissipation of 50 watts. Two tubes functioning as Class "B" AF Amplifier or Modulator handles power output of 225 watts. A single 811 as Class "B," RF amplifier has power output of 25 watts. Single tube, Class "C" RF amplifier power output 120 watts. and as RF Oscillator 170 watts. Filament 6.3 volts, 4.0 amps. Amplification factor 160. Grid to plate capacitance 5.3 MMF. Max.

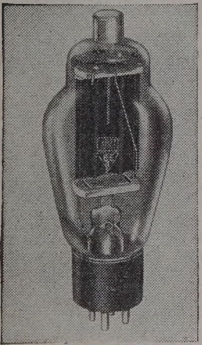

BAYONET PIN
CAP P
2 NC
3 G
1 F
4 F
BOTTOM VIEW SOCKET CONNECTIONS

Type 812

Type 812 TRANSMITTING TRIODE ZIRCONIUM COATED ANODE

EE-812 is a low-mu transmitting triode with a normal plate dissipation of 50 watts. Two tubes as Class "B," AF amplifier or Modulator capable of 225 watt output. Single tube, Class "B" RF amplifier has power output capacity of 25 watts. Single tube, Class "C," RF amplifier 120 watts, and as RF Oscillator 170 watts. Filament 6.3 volts, 4.0 amps. Amplification factor 29. Gride to plate capacitance 5.3 MMF max.

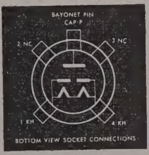

BAYONET PIN
CAP P
2 NC
3 G
1 F
4 F
BOTTOM VIEW SOCKET CONNECTIONS

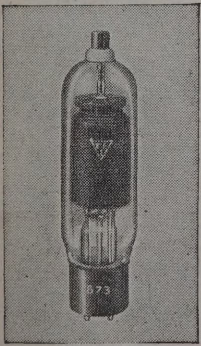


Type 3B 27

Type 3B 27 HALF-WAVE HIGH VACUUM RECTIFIER

EE-3B27 features double heaters and cathodes, close spacing between heaters and cathodes. Ceramic spacers provide long leakage paths. For use when temperature conditions or noise restrictions prohibit the use of mercury vapor testers. Max. ratings: 8500 volts, .150 amps. or 6000 volts, at .25 amps. Peak plate current at 6000 volts 1 amp. Heater 2.5 volts at 5 amps. May be mounted in any position.

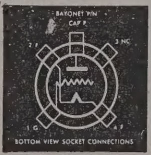

BAYONET PIN
CAP P
2 NC
3 NC
1 KH
4 KH
BOTTOM VIEW SOCKET CONNECTIONS



Type 873

Type 873 HALF-WAVE MERCURY-VAPOR GRID CONTROL RECTIFIER

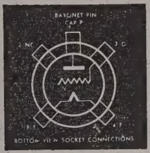
EE-873 is intended for use where continuously variable power output is required in such applications as vacuum tube bombarding and induction heating equipment. Ratings are as follows: Supply frequency 0-150 cycles, condensed mercury temperature 20-50° C. peak inverse voltage 10,000 max., peak plate current 5.0 amps. max., average plate current 1.25 amps. max. At 20° to 70° C peak inverse voltage 5,000 max.

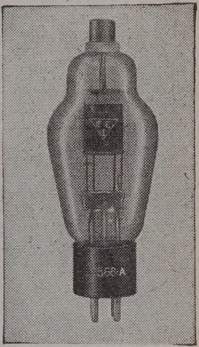

BAYONET PIN
CAP P
2 F
3 NC
1 G
4 F
BOTTOM VIEW SOCKET CONNECTIONS

Type EE-17

Type EE-17 HALF-WAVE MERCURY-VAPOR GRID CONTROLLED RECTIFIER

EE-17 rectifier is intended for use in devices which require a continuously variable power output or on and off control such as in transmitter keying. Peak inverse voltage 7,500 max., peak plate current 2.0 amps. max., average plate current .5 amps. at 20° C. condensed mercury temperature. Heating time 30 seconds. Ionization time 10 microseconds. Deionization time 1000 microseconds. Supply frequency 0-150 cycles.

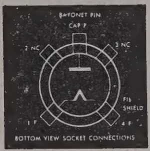

BAYONET PIN
CAP P
2 NC
3 G
1 F
4 F
BOTTOM VIEW SOCKET CONNECTIONS

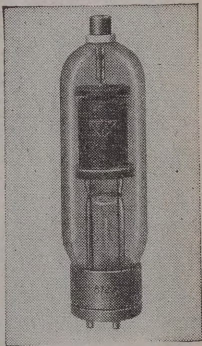


Type 866 A/866

Type 866 A/866 HALF-WAVE MERCURY-VAPOR RECTIFIER

Rugged construction. Extra large, new alloy filament permits operation at low temperature and higher inverse voltage and assures long life. Maximum ratings with supply frequency to 1000 cycles, condensed mercury temperature 25-70° C, peak inverse voltage 5000 max., peak plate current 1.0 amps. max., average plate current 0.25 amps. max. tube drop 15 volts. With condensed mercury temperature 25 to 60° C and to 150 cycles supply, peak inverse voltage 10,000 max.

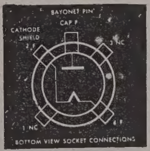

BAYONET PIN
CAP P
2 NC
3 NC
Fil SHIELD
1 F
4 F
BOTTOM VIEW SOCKET CONNECTIONS



Type 872-A

Type 872-A HALF-WAVE MERCURY-VAPOR RECTIFIER

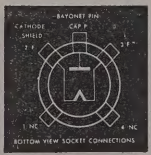
EE-872-A is a heavy duty rectifier. Maximum ratings are as follows: Supply frequency to 150 cycles, condensed mercury temperature 25-50° C., Peak inverse voltage 10,000, peak plate current 5.0 amps., average plate current 1.25 amps., tube voltage drop approx. 10 volts. Filament 5.0 volts, 6.75 AC. Tubes may be used with choke or condenser input and in single or multiphase connections.


BAYONET PIN
CAP P
CATHODE SHIELD
2 F
3 NC
1 NC
4 F
BOTTOM VIEW SOCKET CONNECTIONS

Type 8008

Type 8008 HALF-WAVE MERCURY-VAPOR RECTIFIER

EE-8008 is a heavy duty rectifier with an oversize base for positive filament connection at all times. Ratings are as follows: Supply frequency to 150 cycles. Condensed mercury temperature 15-50° C., peak plate current 5.0 amps. max., average plate current 1.25 amps. max. Tube voltage drop approx. 10 volts. Tubes may be used with condenser or choke input and in single or multi-phase rectifier circuits.


BAYONET PIN
CAP P
CATHODE SHIELD
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3 F
1 NC
4 NC
BOTTOM VIEW SOCKET CONNECTIONS

ELECTRONIC ENTERPRISES

ELECTRONIC ENTERPRISES • INC **POWER & TRANSMITTING TUBES**

ELECTRONIC ENTERPRISES · INC

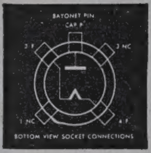
Power and Transmitting Tubes

FOR ALL INDUSTRIAL AND ELECTRONIC APPLICATIONS

Type 575-A

Type 575-A HALF-WAVE MERCURY-VAPOR RECTIFIER

EE-575-A mercury vapor rectifier for heavy duty use where ventilated service is permissible. Tube operates on supply frequencies to 150 cycles, condensed mercury temperature 15 to 50° C. Peak inverse voltage 15,000 max. peak plate current 6.0 amp. max. Average plate current 1.5 amps. max. with internal drop of approximately 10 volts. Large 50 watt type base for rugged mounting and perfect contact. Suited for multi-phase operation.


BAYONET PIN
CAP P
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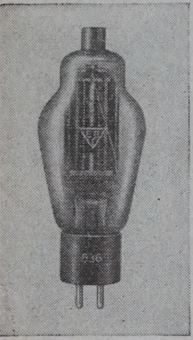
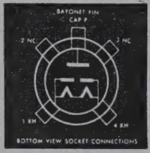
3 NC
1 NC
4 F
BOTTOM VIEW SOCKET CONNECTIONS



Type 836

Type 836 HALF-WAVE HIGH-VACUUM RECTIFIER

EE-836 features double heaters and cathodes with rugged construction permitting close spacing between cathodes and plates. Ratings are 5000 volts max., peak inverse volts, 1.0 amp. max., amperes peak plate current, 0.25 amp. max., average plate current. Heater 2.5 volts at 5.0 amps. Full wave, two tubes, 1765v per tube input (RMS) and 1590v DC output to filter at 0.5 amp. load. 3 phase double "Y," parallel, 6 tubes, AC input 2040 v (RMS) per leg, 2390 volts DC at filter at 1.5 amp.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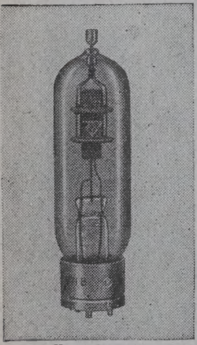
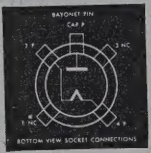
BOTTOM VIEW SOCKET CONNECTIONS



Type 371-B

Type 371-B HALF-WAVE HIGH-VACUUM RECTIFIER

EE-371-B high-vacuum filament type rectifier for application in high voltage circuits. Withstands high inverse voltage. 4 Pin Jumbo base assures positive contact even under severe vibration. Ratings: Maximum peak inverse voltage 25,000. Peak plate current 1.5 amp., max. Average plate current 0.3 amp., max. Filament 5.0 volts (AC) at 10 amperes. 4 tubes in full-wave bridge circuit deliver 15,650 volts to filter at 0.6 amps. with 17,650 volts total AC input.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CAP P
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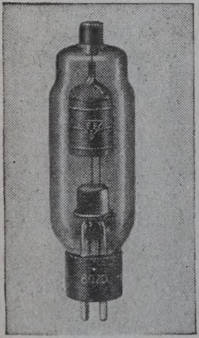
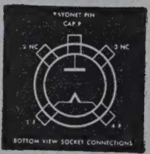
3 NC
1 NC
4 F
BOTTOM VIEW SOCKET CONNECTIONS



Type 8020

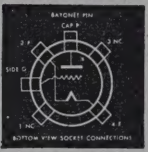
Type 8020 HALF-WAVE HIGH VACUUM RECTIFIER

EE-8020 has thoriated filament and is capable of withstanding peak inverse voltages to 40,000. Peak plate current 0.5 amps., max. average 0.1 amp. max. Filament consumes only 5 volts AC at 6 amps. 4 tubes in full wave bridge deliver 25,440 volts to filter at 0.2 amps. with 28,240 total volts AC input. Medium 4 pin bayonet socket. Mounts vertically.


BAYONET PIN
CAP P
2 NC
3 NC
1 F
4 F
BOTTOM VIEW SOCKET CONNECTIONS

Type EE-200 POWER AMPLIFIER OSCILLATOR, CLASS B MODULATOR

EE-200 is a medium power multi-purpose triode. Tube is ruggedly constructed for industrial applications, long life and operating stability. Operates as self excited oscillator at 60 MC with plate dissipation of 150 watts. Also recommended for Class "B" or "C" applications. Handles plate voltages to 2500 and has amplification of 18. Filament to volts at 3.25 amps. Capacitances: grid to filament 5.2 MMF, grid to plate 5.8 MMF, plate to filament 1.2 MMF.


BAYONET PIN
CAP P
SIDE G
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3 NC
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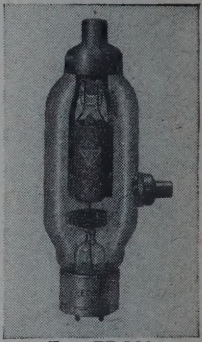
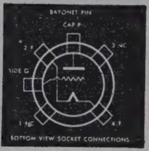
4 F
BOTTOM VIEW SOCKET CONNECTIONS



Type EE-200

Type EE-300 POWER AMPLIFIER OSCILLATOR, CLASS B MODULATOR

EE-300 is similar to EE-200 except capable of higher power output. Same rugged construction and long life features are incorporated. As self excited oscillator at 60 MC, plate dissipation up to 200 watts. May be employed as Class B power amplifier or modulator, or Class amplifier or modulated RF amplifier. Plate voltages of 3000 are easily handled and amplification factor is 23. Capacitances: grid to filament 6.0 MMF, grid to plate 6.5 MMF, plate to filament 1.4 MMF.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CAP P
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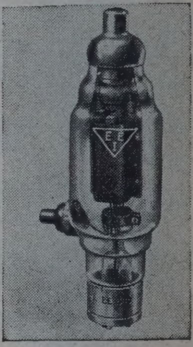
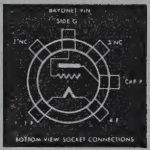
4 F
BOTTOM VIEW SOCKET CONNECTIONS



Type EE-200

Type 100-TH TRANSMITTING TRIODE, TANTALUM ANODE

EE-100-TH medium power transmitting triode has normal plate dissipation 100 watts. Tantalum anode assures gas free long life. Tungsten anode greatly reduces high frequency loss. Tube operates at plate potentials to 3000 volts and has low interelectrode capacitance. Recommended as Class "C" RF amplifier, and Class "B" amplifier or modulator. Filament 5 volts at 6.5 amps. Base: 4 pin ceramic for low loss.


BAYONET PIN
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CAP P
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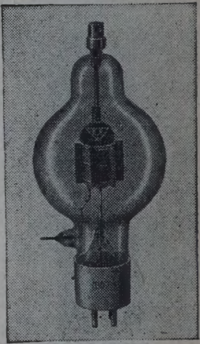
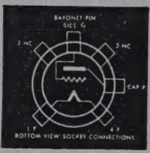
BOTTOM VIEW SOCKET CONNECTIONS



Type 100-TH

Type 808 TRANSMITTING TRIODE

EE-808 medium power triode is recommended as a modulator or Class C oscillator. May be used for Class B amplification. Plate dissipation 50 watts. Anode potentials to 1500 volts may be applied. Filament 7.5 volts, 4.0 amps. Mu 47. Grid is capped at side of tube for low RF loss. Maximum signal output, two tubes as Class B modulators 190 watts. Capacitances: grid to filament 5.2 MMF, grid to plate 2.8 MMF, plate to filament 0.15 MMF.


BAYONET PIN
SIDE G
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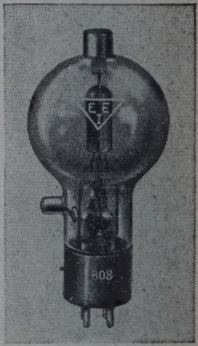
CAP P
1 F
4 F
BOTTOM VIEW SOCKET CONNECTIONS



Type 808

ELECTRONIC e ENTERPRISES

ELECTRONIC ENTERPRISES • INC **POWER & TRANSMITTING TUBES**

UNITED

ELECTRONIC POWER TUBES

A *Amateur*

B *Broadcasting*

C *Commercial*

D *Diathermy*

E *Electric Welding*

F *Film-Sound*

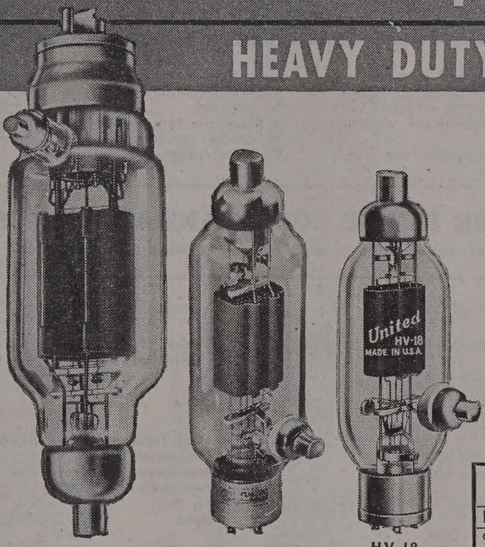
G *Government*
Army, Navy & Aviation

H *High Frequency Heating*

I *Industrial Electronics*

. . . and so on throughout the "alphabet" of boundless, electronic application

HEAVY DUTY OSCILLATOR TUBES



949H
Price $135.00

KU-23
Replaces Type 300
Price $35.00

HV-18
Replaces Type 200 and 460
Price $22.50

United Electronics Company is a pioneer in the field of high-frequency heating. Many popular makes of induction heating generators use UNITED tubes for the r-f power source. This is likewise true in machines for dielectric heating applications — notably in the plastics industry.

Step by step UNITED has progressed with this inportant industrial electronic development, designing specialized power tubes in close collaboration with the research of equipment manufacturers.

The three tube types illustrated in this panel embody structural features and electrical characteristics to intimately adapt them to the specific requirements of r-f heating generators.

Type	Normal Plate Dissipation	Filament Volts	Filament Amperes
KU-23	300 watts	11	4.0
949-H	500 watts	11	7.7
HV-18	200 watts	10	3.85

UNITED RADIO TRANSMITTING TUBES TRIODES MULTI-GRID

UNITED Type		Net Price	Plate Dirs.	Filament Volts	Filament Amps	Max. Plate Volts	Max. Plate Amps	Purpose	Dimensions in Inches
203A	(303A)	$10.00	100	10.0	3.25	1250	.175	R-f Amp.—Osc.—Class B Mod.	7 7/8 x 2 9/16
204A	(304A)	85.00	250	11.0	3.85	3000	.275	R-f Amp.—Osc.—Class B Mod.	14 3/8 x 4 1/16
211	(311)	10.00	100	10.0	3.25	1250	.175	R-f and A-f Amp.—Osc.—Mod.	7 7/8 x 2 5/16
211C	(311C)	16.00	100	10.0	3.25	1250	.175	R-f and A-f Amp.—Osc.—Mod.	7 7/8 x 2 5/16
212E	(312E)	85.00	350	14.0	6.0	3000	.350	R-f and A-f Amp.—Osc.—Mod.	13 5/8 x 3 5/8
242B	(342B)	15.00	85	10.0	3.25	1250	.085	A-f Amp.—Class A Mod.	7 7/8 x 2 5/16
261A	(361A)	16.00	100	10.0	3.25	1250	.175	A-f and R-f Amp.—Osc.—Mod.	7 7/8 x 2 5/16
276A	(376A)	16.00	100	10.0	3.25	1250	.175	A-f and R-f Amp.—Osc.—Mod.	7 7/8 x 2 5/16
284D	(384D)	15.00	100	10.0	3.25	1250	.175	A-f and R-f Amp.—Ocs.—Mod.	7 7/8 x 2 5/16
805	(905)	13.50	125	10.0	3.25	1500	.210	R-f Amp.—Osc.—Class B Mod.	8 1/2 x 2 5/16
813		Inquire	100	10.0	5.0	2000	.180	R-f (Beam) Amp.	7 1/2 x 2 9/16
830	(930)	8.75	40	10.0	2.0	750	.110	R-f & A-f Amp.—Osc.—Class B Mod. .	5 7/8 x 2 1/16
830B	(930B)	10.00	60	10.0	2.0	1000	.150	R-f & A-f Amp.—Osc.—Class B Mod. .	6 5/8 x 2 1/16
833A		Inquire	450	10,0	10.0	4000	.500	R-f Amp.—Osc.—Class B Mod.	8 5/8 x 4 9/32
834	(304-B)	12.00	50	7.5	3.25	1250	.100	H-f Osc.—Amp.—Class B Mod.	6 7/8 x 2 11/16
838	(938)	11.00	100	10.0	3.25	1250	.175	A-f R-f—Osc.—Class B Mod.	7 7/8 x 2 5/16
845	(945)	10.00	75	10.0	3.25	1250	.095	A-f Amp.—Class A Mod.	7 7/8 x 2 5/16
849	(949)	120.00	400	11.0	5.0	3000	.350	A-f and R-f Amp.—Osc.—Mod.	14 3/8 x 4 1/8
851	(951)	160.00	750	11.0	15.5	3000	1.0	A-f and R-f Amp.—Osc.—Mod.	17 5/8 x 6 1/8
860		Inquire	100	10.0	3.25	3000	.150	R-f Amp.—Osc.—Mod	8 3/4 x 4 1/4
HV12	(814)T	18.00	200	10.0	4.0	2500	.210	R-f Amp.—Osc.	9 1/2 x 2 5/8
HV18	(200-460)	22.50	200	10.0	3.85	2500	.210	R-f Amp.—H-f Osc.—Class B Mod. . .	9 7/8 x 9 1/16
HV27	(822)	18.00	200	10.0	4.0	2500	.210	R-f Amp.—Osc.—Class B Mod.	9 1/2 x 2 5/8
KU23	(300)	35.00	200	11.0	4.0	3000	.275	A-f and R-f Amp—Uhf. Osc.—Mod . .	10 1/4 x 3

UNITED RECTIFIER TUBES MERCURY VAPOR HIGH VACUUM

UNITED Type		*	Net Price	Filament Volts	Filament Amps.	Max. Peak Inv. Voltage	Max. Peak Plate Curr. Amp.	Average Plate Curr. Amp.	Dimensions in Inches
Z225		M	$1.65	2.5	5.0	10,000	1.0	.250	5 1/2 x 1 3/4
315-A		M	35.00	5.0	10.0	12,500	7.0	1.75	12 x 3
371-B		V	Inquire	5.0	10.3	25,000	1.5	.300	8 3/4 x 2 1/4
872-A	(972-A)	M	7.50	5.0	6.75	10,000	5.0	1.25	8 1/2 x 2 5/16
872	(972)	M	7.50	5.0	10.0	7,500	5.0	1.25	8 1/2 x 2 5/16
866-A	(966) (966-A)	M	1.50	2.5	5.0	10,000	1.0	.250	6 5/8 x 2 7/16
878	(978)	V	Inquire	2.5	5.0	20,000	.020	.005	7 5/8 x 1 13/16
967	(FG17)	M	6.00	2.5	5.0	Grid Controlled type—Request Data Sheet			6 5/8 x 2 7/16
UX-973		M	17.25	5.0	6.75	Grid Controlled type—Request Data Sheet			9 1/8 x 2 5/16
975-A	(375-A)	M	27.50	5.0	10.0	15,000	6.0	1.50	11 1/16 x 3 1/16
U1901		V	Inquire	16.5	15.25	70,000	1.2	.040	17 1/2 x 6
973	(.G27)	M	17.25	5.0	6.75	Grid Controlled type—Rquest Data Sheet			8 1/2 x 2 5/16

NOTE: All ratings given are for continuous service. Higher ratings are permissible for intermittent operation. Detailed data will be furnished upon request. *Forced Air Cooling CAS. M—Mercury Vapor. V—High Vacuum.

UNITED ELECTRONICS COMPANY, 42 SPRING STREET, NEWARK 2, N. J.

ARMY E NAVY

UNITED

DIATHERMY OSCILLATOR TUBES

A *Amateur*

B *Broadcasting*

C *Commercial*

D *Diathermy*

E *Electric Welding*

F *Film-Sound*

G *Government*
Army, Navy & Aviation

H *High Frequency Heating*

I *Industrial Electronics*

. . . and so on throughout the "alphabet" of boundless electronic application

United radio-therapy oscillators and rectifiers are used by the majority of short-wave generator manufacturers. UNITED has worked hand in hand with leading therapy instrument designers to develop better tubes.

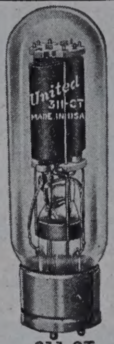
These tubes are specifically designed for heavy duty use in these self-excited oscillator circuits, in which general purpose tubes cannot properly be applied.

Accurate replacement of tubes can most readily be made by selecting the proper UNITED types from the tables below.

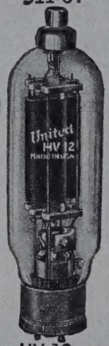
RENEWAL TUBE INDEX FOR STANDARD MACHINES

(If machine is not listed, replace tube in accordance with guide at bottom of this page)

Manufacturer	Model	United Tubes
Adlanco	Portable	2 type 311T
Barr	SW15	2 type 311CT
Beck Lee	1205 & 1206	2 type 311CT
Bristow	FP-35 & FP-12	2 type 311CT
Bropar	NP	2 type 311CT, 2 type 866A
Birtcher	Challenger, models 900, 960, 970, 980, and 990	2 type 311CT, 2 type 866A
"	Crusader #500 (Serial numbers over 63401)	2 type CV11
"	Viking #550	2 type CV11
"	Surgical #3000	2 type CV11
Burdick	Triplex	2 type HV18
"	Magnitherm	2 type FV20
"	SWD50	2 type 311T
"	SWD 5	2 type 952
Cameron	Cauteradio	1 type 930
De Forest	Models K, A, B, C, E, L, R250, R300, D300, LR300	2 type 311CT, 2 type 866A
"	Models NE, D400, R400, LL, M Console and B1-Wave	2 type HV18, 2 type 866A
"	Thermodyne	1 type FV20, 2 type 866A
Denmark	SWF	2 type 311CT
"	ENT	2 type 303-U
"	HFP	2 type HV12
Falconer	Portable 6	2 type 311CT
Fischer of Glendale	#106C	2 type 311CH
"	#114A	2 type HV18
"	Portable	2 type 311CT, 2 type 866A

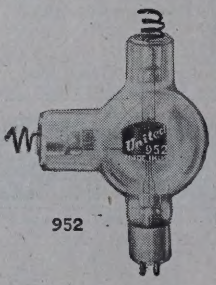


311-CT



HV-12

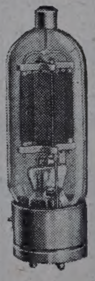
Manufacturer	Model	United Tubes
Fischer of Glendale	Clinic	2 type 311CT, 2 type 866A
"	Console	2 type 311CT, 2 type 866A
"	F-99	2 type 311CT
"	102A	2 type 311CT
High Tension	RF1 and RF5	2 type 311T
International		2 type 311CT
MacIntosh	Brevatherm	2 type HV12
Mooradian	Model C	2 type 311T
Nassau	All models	2 type 303U
Rose	CW1, CW2, CW3	2 type 311T,
"	CW4, CW5	2 type HV18
"	CW6	2 type 311T
"	CX1	2 type HV18
"	CX2	2 type HV18, 2 type 866A
"	C-U	2 type 311T
"	Tube-Gap Surgical	2 type 311T
Sanitex	S1	1 type HV27
"	S2	2 type 311CT
"	S3	2 type FV20, 2 type 966
"	S4	2 type FV20, 2 type 866A
"	S10	2 type 311CT
Scherco	Portable 100	2 type 311T
"	Portable 200	2 type 311T
"	2000	2 type 311T 2 type 866A
Terma	T-2 B	2 type 311CT
"	R-4	2 type C11CT, 2 type 866A
"	R-6	2 type FV20, 2 type 866A
"	R-7	2 type HV18, 2 type 866A
"	P-14	1 type HV27



952

UXCV-11

311-CH



CV-11

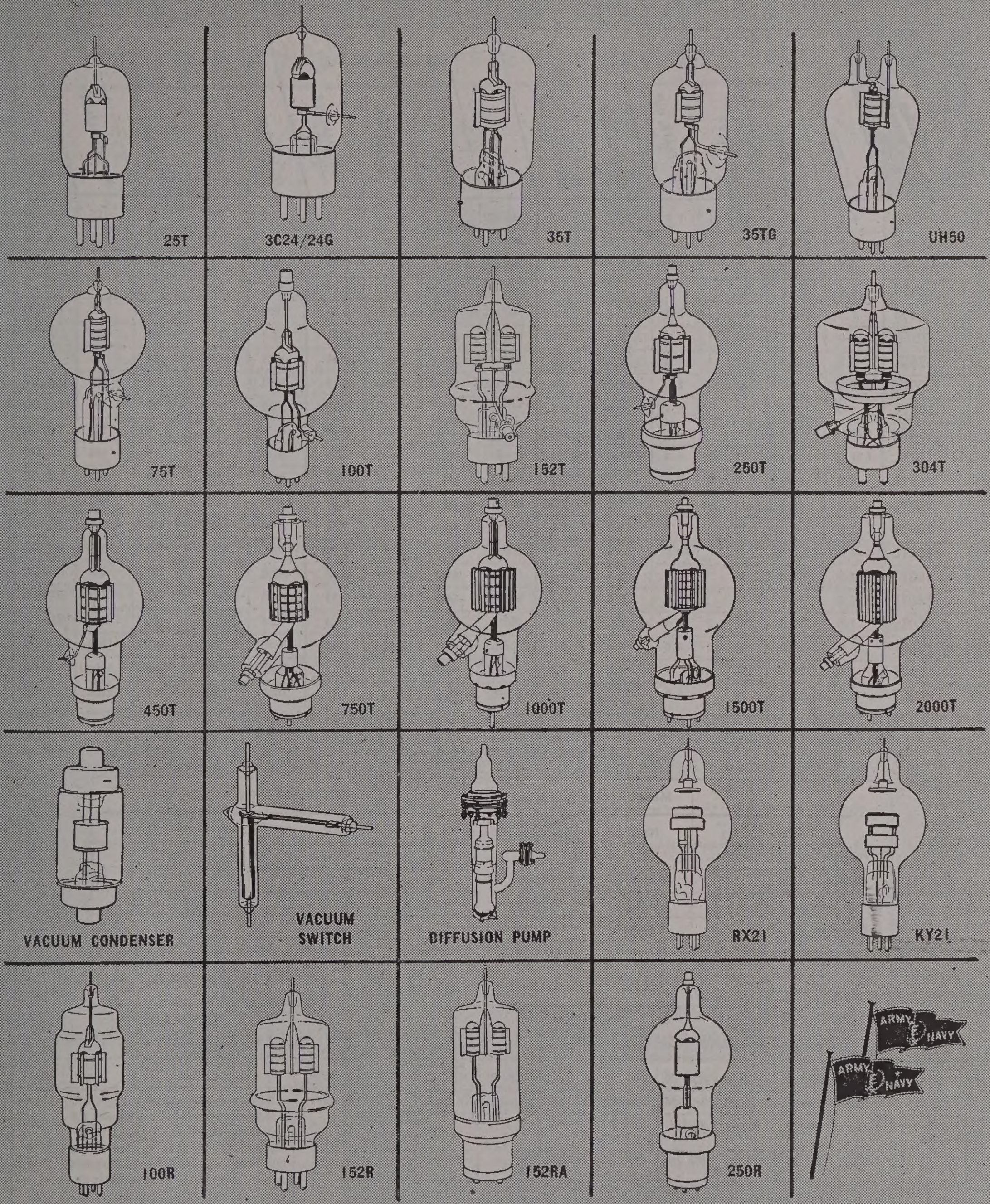
FV-20

TECHNICAL BULLETIN "D" DESCRIBING ABOVE AND OTHER DIATHERMY TUBES SENT UPON REQUEST

NET PRICES

Type	Net Price	Type	Net Price	Type	Net Price	Type	Net Price
311T	$16.00	FV-20	$17.50	HV-12	$18.00	930	$ 8.75
311CT	16.00	HV-18	22.50	HV27	18.00	303U	18.00
311CH	18.00	952	16.40	CV11 or UXCV-11	10.00	866A	1.50

UNITED ELECTRONICS COMPANY, 42 SPRING STREET, NEWARK 2, N. J.


25T
3C24/24G
35T
35TG
UH50
75T
100T
152T
250T
304T
450T
750T
1000T
1500T
2000T
VACUUM CONDENSER
VACUUM SWITCH
DIFFUSION PUMP
RX21
KY21
100R
152R
152RA
250R
ARMY NAVY
ARMY NAVY

Eimac tubes are unconditionally guaranteed against failures caused by gas released internally.

Brief technical data covering the vacuum tubes will be found on the reverse side of this sheet. Black and white prints of the above illustrations are available for use in your catalogs or advertising. Write direct to:

EITEL-McCULLOUGH, INC.
875 SAN MATEO AVE., SAN BRUNO, CALIFORNIA
Plants at: Salt Lake City, Utah, and San Bruno, California
Export Agents: FRAZAR & HANSEN, 301 Clay Street
San Francisco, California, U. S. A.

875

Eimac REG. U. S. PAT. OFF.
TUBES

EIMAC TRANSMITTING TUBES

Eimac TUBES	ELECTRICAL						MECHANICAL				MAX. RATINGS				
	FIL. VOLTS	FIL. AMPS.	AMP. FACTOR	GRID-PLATE, UUF	GRID-FIL., UUF	PLATE-FIL., UUF	BASE	BASING	MAX. LENGTH, INCHES	MAX. DIAMETER, INCHES	PL. VOLTAGE	PL. CURRENT, MA.	GRID CURRENT, MA.	PL. DISSIPATION	PRICE
25T	6.3	3.0	29	1.6	2.4	0.4	M8-071	....	4.38	1.43	2000	75	25	25	$6.00
3C24/24G	6.3	3.0	25	1.6	1.8	0.2	M8-071	....	4.38	1.43	2000	75	25	25	9.00
35T	5.0	4.0	30	1.9	4.0	0.2	M8-078	3G	5.5	1.81	2000	150	35	50	6.00
35TG	5.0	4.0	30	1.9	1.9	0.2	M8-078	2M	5.75	1.81	2000	150	35	50	6.75
UH50	7.5	3.25	13	2.4	2.2	0.4	M8-078	2M	7.0	2.69	1250	125	50	50	12.50
75TH	5.0	6.5	20	2.3	3.5	0.25	M8-078	2M	7.25	2.81	3000	225	40	75	9.00
75TL	5.0	6.5	11	2.3	2.2	0.4	M8-078	2M	7.25	2.81	3000	225	35	75	9.00
100TH	5.0	6.2	40	2.0	2.9	0.4	M8-078	2M	7.75	3.19	3000	225	60	100	13.50
100TL	5.0	6.5	12	2.3	2.0	0.4	M8-078	2M	7.75	3.19	3000	225	35	100	13.50
152TH	5 or 10	13 or 6.5	20	4.7	7.0	0.5	5000B	4BC	7.63	2.56	3000	450	75	150	20.00
152TL	5 or 10	13 or 6.5	11	5.0	4.8	0.8	5000B	4BC	7.63	2.56	3000	500	75	150	20.00
250TH	5.0	10.5	37	2.9	5.0	0.7	5001B	2N	10.13	3.81	4000	350	100	250	24.50
250TL	5.0	10.5	13	3.5	3.0	0.5	5001B	2N	10.13	3.81	4000	350	50	250	24.50
304TH	5 or 10	26 or 13	20	9.4	14.0	1.0	5000B	4BC	7.63	3.56	3000	900	170	300	50.00
304TL	5 or 10	26 or 13	11	10.0	10.0	1.5	5000B	4BC	7.63	3.56	3000	1000	150	300	50.00
450TH	7.5	12.0	38	4.7	8.1	0.8	5002B	4AQ	12.63	5.13	6000	500	125	450	60.00
450TL	7.5	12.0	19	5.0	6.6	0.9	5002B	4AQ	12.63	5.13	6000	500	75	450	60.00
750TL	7.5	21.0	15	4.5	6.0	0.8	5003B	4BD	17.0	7.13	6000	1000	125	750	135.00
1000T	7.5	16.0	30	4.0	6.0	0.6	5004B	4AQ	12.63	5.13	6000	750	125	1000	100.00
1500T	7.5	26.0	24	7.0	9.0	1.3	5005B	4BD	17.0	7.13	6000	1250	200	1500	185.00
2000T	10.0	26.0	20	9.0	13.0	1.5	5006B	4BD	17.75	8.13	6000	1750	300	2000	225 00

EIMAC RECTIFIERS

	MERCURY VAPOR TYPE		HIGH VACUUM TYPE			
	RX-21	KY-21 (Grid Control)	100-R	152-R	152-RA	250-R
1. Filament Voltage...............	2.5	2.5	5.0	5.0	5.0	5.0
2. Filament Current...	10 amperes	10 amperes	6.5	13.0	13.0	10.5
3. Peak Inverse Voltage...........	11,000	11,000	40,000	30,000	30,000	60,000
4. Peak Plate Current............	3 amperes	3 amperes	....	....	....	....
5. Average Plate Current..........	.75 amperes	.75 amperes	.100 amperes	.150 amperes	.150 amperes	.250 amperes
Price....................	$7.50	$10.00	$13.50	$15.00	$15.00	$20.00

EIMAC VACUUM CONDENSERS

Type.......	VC6-20	VC12-20	VC25-20	VC50-20	VC6-32	VC12-32	VC25-32	VC50-32
Capacity....	6-mmfd	12-mmfd	25-mmfd	50-mmfd	6-mmfd	12-mmfd	25-mmfd	50-mmfd
Rating..... RFPeak	20-KV	20-KV	20-KV	20-KV	32-KV	32-KV	32-KV	32-KV
Price.......	$10.00	$11.30	$14.00	$16.70	$12.00	$13.30	$16.00	$18.70

EIMAC VACUUM SWITCHES

TYPE	GENERAL DATA	PRICE
VS-1..	Single pole double throw switch within a high vacuum making it adaptable for high voltage switching. The contact spacing is .015″. In spite of the close spacing this switch will handle R. F. potentials as high as 20-KV. In D. C. switching circuits the contacts will handle approximately 1.5 amperes at 5 KV.	$15.00
VS-2...	Same as above except for slightly longer glass tubulation.	$15.00

EIMAC DIFFUSION PUMP

HV-1 Diffusion Pump..	PRICE ON APPLICATION
Eimac Pump Oil..	

EITEL-McCULLOUGH, INC. • SAN BRUNO, CALIFORNIA

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Export Agents: FRAZAR & HANSEN, 301 Clay Street, San Francisco, California, U. S. A.

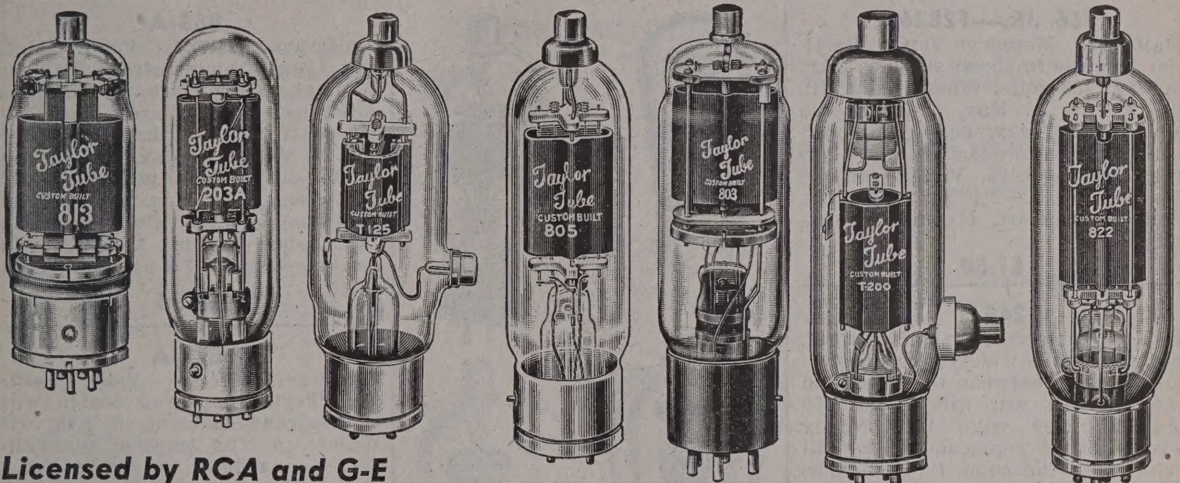
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

TRANSMITTING POWER

Taylor Tubes

"More Watts per Dollar!"

2312-18 WABANSIA AVENUE, CHICAGO 47, ILLINOIS



Taylor Tube CUSTOM BUILT 813
Taylor Tube CUSTOM BUILT 203A
Taylor Tube CUSTOM BUILT T125
Taylor Tube CUSTOM BUILT 805
Taylor Tube CUSTOM BUILT 803
Taylor Tube CUSTOM BUILT T200
Taylor Tube CUSTOM BUILT 822

Licensed by RCA and G-E

822

For Induction Heating

A Heavy-duty Triode—thousands in use in R. F. Heating Apparatus. Fil. 10.0 V.—4.0 A. Max. plate Volts—2500. Max. plate current—MA—350. Grid to plate cap.—13.5 mmf. Amp. Factor—27. Plate Dissipation—200 Watts. Max. size —9 in. x 2⅝ in. Nonex Glass. Standard 50 watt base.

$18.50

814

Same electrical and physical specifications as 822 except Amp. Factor is 12. **$18.50**

203-A

Taylor's 203-A created a new standard for long, trouble-free performance. It is a husky Triode. Fil. 10.0 V.—3.25 A. Max. plate Volts—1250. Max. plate current—MA—175. Grid to plate cap.—13 mmf. Amp. Factor—25. Plate dissipation —100 watts. Max. size—7½ in. x 2 5/16 in. Nonex Glass. Standard 50 watt base.

$10.00

211

Same electrical and physical characteristics as 203-A except Amp. Factor is 12.

$10.00

211-C

Special Diathermy type. Grid to plate cap. is 9 mmf. Special grid and plate leads increase safety factor. **$12.50**

Multi-Element Types

803—Pentode	$25.00
813—Beam Power	22.00
T-21—Beam Power	1.95
282-A—Screen Grid	22.00

T-200

A heavy-duty Triode—operates at high efficiency with full input at 30 mc. Fil. 10.0 V.—5.75 A. Max. plate Volts—2500. Max. plate current-MA —350. Grid to plate cap.—7.9 mmf. Amp. Factor—17. Plate dissipation—200 Watts. Nonex Glass. Standard 50 watt base. Max. size—9½ in. x 3¾ in.

$21.50

805

High Mu—zero bias Triode. Fil. 10.0 V.—3.25 A. Max. plate Volts—2000. Max. plate current—MA—200. Grid to plate cap.—7.7 mmf. Amp. Factor —Variable. Plate dissipation —125 Watts. Max. Size—8½ in. x 2 5/16 in. Nonex Glass. Standard 50 watt base.

$11.00

T-125

Fine performing medium power Triode for operation in frequencies up to 60 mc. Fil. 10.0 V.—4.5 A. Max. plate Volts—2500. Max. plate current—MA—250. Grid to plate cap.—6.0 mmf. Amp. Factor— 25. Plate dissipation—125 Watts. Max. size—8¼ in. x 3 in. Nonex Glass. Standard 50 watt base. **$13.50**

810

Medium power Triode—interchangeable with RCA 810. Same appearance as the T-125. Fil. 10.0 V.—4.5 A. Max. plate Volts—2250. Max. plate current—MA—275. Grid to plate cap.—4.8 mmf. Amp. Factor—36. Plate dissipation —150 Watts. Max. size—9 in. x 2¾ in. Nonex Glass. Standard 50 watt base. **$13.50**

T-40 — TZ-40

Versatile and highly popular 40 watt Triodes. Full input to 60 mc. Fil. 7.5 V.—3.0 A. Max. plate Volts—1500. Max. plate current—MA—150. Grid to plate cap.—5.0 mmf. Plate dissipation—40 Watts. Amp. Factor — T-40-25; TZ-40-62. Max. size—6¼ in. x 2⅛ in. UX 4 prong base.

$3.50

T-55

Good High Frequency Triode. Full input on 60 Mc. Fil. 7.5 V.—3.0 A. Max. plate Volts—1500. Max. plate current—MA —165. Grid to plate cap.—3.85 mmf. Amp. Factor—20. Plate dissipation—55 Watts. Max. size—7 in. x 2⅝ in. Nonex Glass. UX 4 prong base.

$6.00

Diathermy Types

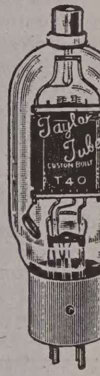
841-SW	$ 8.00
303-C	14.50
HD-211-C	14.50
830-B	10.00
T-60	7.00
T-100	12.50
T-124	13.50

Standard Types

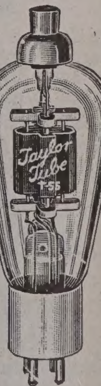
T-20—TZ-20	2.25
838	10.50
845	10.00
HD-203-A	14.50
203-Z	8.00

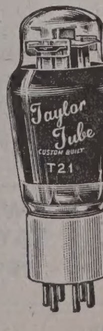
TAYLOR TUBE MANUAL

Gives complete characteristics and curves of all Taylor Tubes. Will be sent to you upon request. Get your copy now.



Taylor Tube CUSTOM BUILT T40





Taylor Tube CUSTOM BUILT T21

RECTIFIER GRID CONTROL

Taylor Tubes

"More Watts per Dollar!"

2312-18 WABANSIA AVENUE, CHICAGO 47, ILLINOIS

866 JR.—(2B26)

Half-wave Mercury Vapor Rectifier. For use in power supplies from 600 to 1250 volts. Widely used. Fil. 2.5 V.—2.5 A. Max. peak inverse Volts—5000. Max. peak plate current Amps.—0.5. Max. av. plate current Amps.—0.125. Voltage drop—15. Size max.—5¼ in. x 2¼ in. Socket—Standard 4 contact—Ceramic.

$1.00

249-B

Half-wave Mercury Vapor Rectifier. Suitable for a wide range of services midway between the 866-A and the 872-A. A pair will deliver 750 MA. at 3200 volts D.C. Nonex Glass. Exact replacement for all tubes with the same type number. Fil. 2.5 V.—7.5 A. Max. peak inverse Volts—10,000. Max. peak plate current Amps.—1.5. Max. av. plate current Amps.——.375. Voltage drop—15. Max. size—6⅞ in. x 2½ in. Socket—Standard 4 contact—Ceramic.

$5.00

258-B

Replace tubes of same type number. Has same electrical and physical characteristics as 249-B except has two ¼ inch prongs only. Fits W. E. type 138-B socket.

$6.00

875-A

Half-wave Mercury Vapor Rectifier. A pair will deliver 3.0 Amps. at 4750 Volts D.C. Fil. 5.0 V.—10.0 A. Max. peak inverse Volts—15,000. Max. peak plate current Amps.—6.0. Max. av. plate current Amps.—1.5. Voltage drop—15. Max. size—10¾ in. x 3 13/16 in. Socket—Transmitting 4 contact—50 watt type.

$30.00

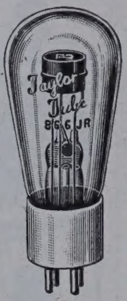
HI-VAC HALF-WAVE HI-VOLT RECTIFIER

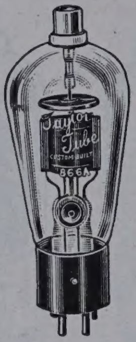
TR-40-M

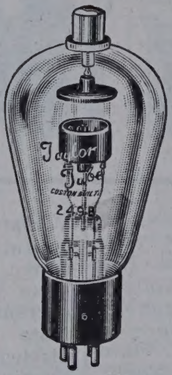
High Vacuum, High Voltage, Halfwave Rectifier. Incorporates latest design features insuring long filament life. Nonex Glass. Fil. 5.0 V. —10.5 A. Max. peak inverse Volts —60,000. Average plate current—250 MA. Socket—Transmitting 4 contact—50 watt type. Max. size—10⅛ in. x 3¾ in.

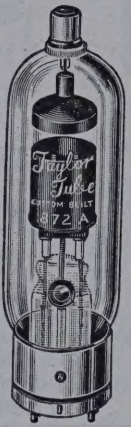
$20.00

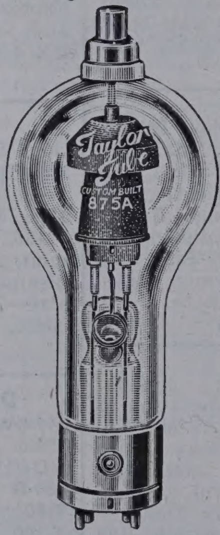
Write us for TAYLOR TUBES new *MANUAL* FREE

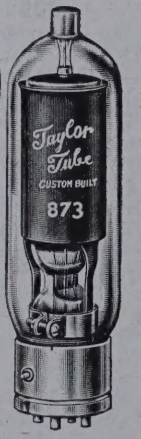


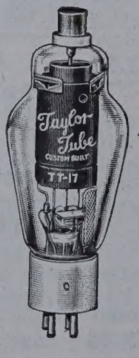


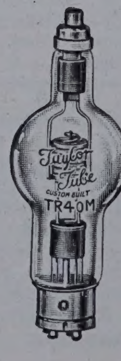












866-A

Half-wave Mercury Vapor Rectifier. Long-life multi-strand filament. Alsimag safety plate cap insulator minimizes glass failures. More Taylor 866-A's in use than any other. Fil. 2.5 V.—5.0 A. Max peak inverse Volts—10,000. Max. peak plate current Amps.—1.0. Max. av. plate current Amps.—0.25. Voltage drop—15. Max. size—6¼ in. x 2 5/16 in. Socket—Standard 4 contact—Ceramic.

$1.50

872-A

Half-wave Mercury Vapor Rectifier. Taylor improved design with multi-strand filament. A pair will deliver up to 2.5 Amps. at 3500 Volts D.C. Nonex Glass. Fil. 5.0 V.—7.0 A. Max. peak inverse Volts—10,000. Max. peak plate current Amps.—5.0. Max. av. plate current Amps.—1.25. Voltage drop—15. Max. size —8¼ in. x 2 5/16 in. Socket—Transmitting 4 contact—50 watt type.

$7.50

8008

Same as the 872-A except has longer base pins. Use in a Johnson 244 or Mykroy 8008 socket.

$7.25

GRID CONTROL GASEOUS RECTIFIERS

TT-17

Replaces Gen. Elec. FG-17. Grid-controlled Mercury Vapor Triode Discharge-Rectifier tube. Fil. 2.5 V. —5.0 A. Max. peak inverse Volts —2500. Max. peak plate current Amps.—2.0. Max. av. plate current Amps.—0.5. Negative starting voltage. Max. size—6¾ in. x 2¼ in. Socket—Standard 4 contact—Ceramic.

$6.00

873

Grid-controlled Mercury Vapor Triode Discharge-Rectifier tube. Fil. 5.0 V.—7.0 A. Max. peak inverse Volts—7500. Max. peak plate current Amps.—5.0. Max. av. plate current Amps.—1.25. Voltage drop—15. Negative starting voltage. Socket—Transmitting 4 contact—50 watt type. Nonex Glass. Max. size—10¾ in. x 3 13/16 in.

$17.25

We carry a complete stock of Taylor Tubes and always have the New Tubes as soon as they are announced.

CETRON ELECTRONIC TUBES

Engineered and Manufactured by Continental Electric Co., Geneva, Ill.

CETRON PHOTOTUBES

CETRON phototubes are either of the gas-filled or of the vacuum type. With the gas-filled type, greater effective response is obtained, particularly in low impedance circuits, while the vacuum type is recommended where maximum stability is desired.

CETRON phototubes are selected as to their sensitivity and priced accordingly. Phototubes of the Super Class A/B are generally used for experimental purpose where very high sensitivities are required; Class C mostly for motion picture equipment; Class D for relay work, etc.

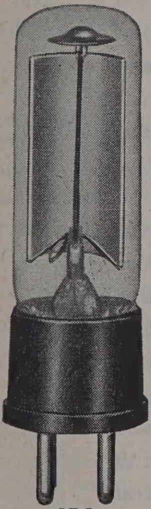
Standard phototubes are those listed without an asterisk * while special ones, which are only produced on demand, carry an asterisk *.

GAS-FILLED PHOTOTUBES

The rated sensitivity for Super Class A/B is 200 microamperes per lumen and up (average 300); Class C, 125-200 microamperes per lumen (average 160); Class D, 75-125 microamperes per lumen (average 100). These sensitivities are measured at recommended operation and test voltage as specified in our technical chart.

... NET PRICES ...

STANDARD TYPES



CE-1

Type	Super Class A/B	Class C	Class D	Replaces No.
CE-1	$8.50	$5.50	$3.00	868 918 PJ-23 WL-735
CE-2	8.50	5.50	3.30	WL-737
CE-3	8.50	5.50	3.30	WL-728 WE-3A
CE-4	8.50	5.50	3.30	—
CE-21	15.00	9.00	5.75	920
CE-22	8.50	5.00	2.50	924
CE-23	5.50	3.75	1.50	923
CE-25	10.00	6.00	3.50	927
CE-30	5.50	3.75	2.00	930
CE-36	10.00	6.00	3.50	—

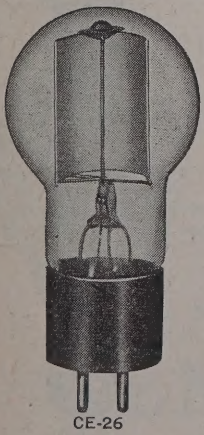
CETRON
CE-29

SPECIAL TYPES

Type	Super Class A/B	Class C	Class D	Replaces No.
CE-5*	$10.00	$6.00	$3.50	WL-739
CE-7*	8.50	5.50	3.30	—
CE-8*	8.50	5.50	3.30	—
CE-10*	50.00	35.00	25.00	—
CE-15*	40.00	30.00	22.00	—
CE-18*	18.00	12.00	7.00	—
CE-20*	Substituted with CE-25			
CE-26*	8.50	5.50	3.30	—

VACUUM PHOTOTUBES

The rated sensitivity for Super Class A/B is 30 microamperes per lumen and more (average 35); Class C, 22-30 microamperes per lumen (average 25); and Class D, 12-22 microamperes per lumen (average 16); all are measured at 250 Volts.



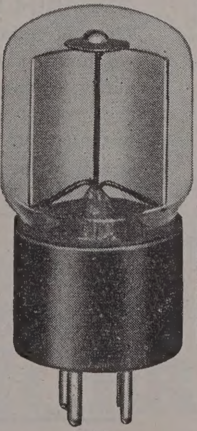
CE-26

CE-25

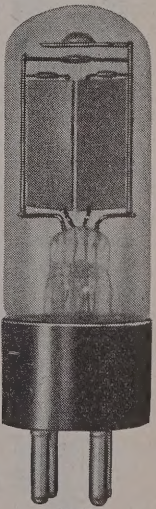
NET PRICES

Type	Super Class A/B	Class C	Class D	Replaces No.
CE-1V	$ 8.50	$5.50	$3.00	PJ-22
CE-2V	8.50	5.50	3.30	—
CE-4V	8.50	5.50	3.30	—
CE-11V	12.00	7.00	3.75	917
CE-13V*	15.00	9.00	5.75	—
CE-25V	10.00	6.00	3.50	—
CE-29 blue sensit. 45 microamperes		3.00	—	929
CE-30V	5.50	3.75	2.00	925
CE-31V	12.00	7.00	3.75	919

When ordering, state type and sensitivity desired; for instance—CE-1C.



CE-2

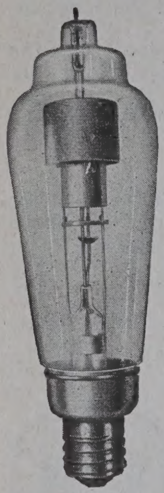


CE-21

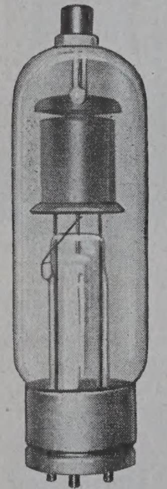
CETRON ELECTRONIC TUBES

Engineered and Manufactured by Continental Electric Co., Geneva, Ill.

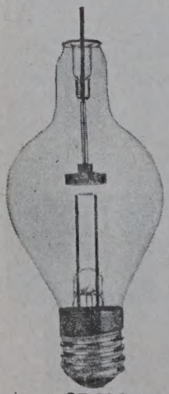
CETRON RECTIFIER and GRID CONTROL TUBES



CE-202



CE-872A



CE-226

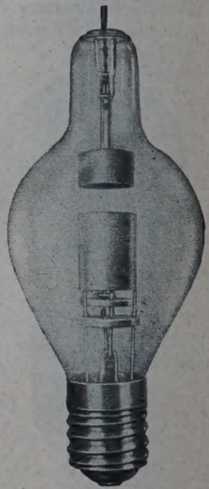
Type New No.	Old No.	Description	Net Price	Data Sheet No.
CE-200	CR-200	2 amp. full wave mercury vapor 250 volts DC with standard 4 pin base	$ 7.75	111
CE-202	—	15 amp. half wave mercury vapor 250 volts DC mogul Screw base	30.00	108
CE-203	—	15 amp. half wave mercury vapor 150 volts DC Mogul Screw base	14.00	104
CE-205	2-RA-5	5 amp. half wave mercury vapor 250 volts DC Mogul Screw base	16.00	105
CE-206	2-RA-6	6 amp half wave mercury vapor 90 volts DC Mogul Screw base	6.00	106
CE-212	—	2 amp. half wave gas filled 60 volts DC Medium Screw Base	4.00	120
CE-213	2-RA-3	2½ amp. half wave mercury vapor 600 volts DC standard 4 pin base	8.00	107
CE-215	2-RA-15	15 amp. half wave mercury vapor 75 volts DC Mogul Screw base	12.00	103
CE-220	CE-Q72	.020 amp. 20,000 half wave high vacuum, rect. tubes. Stand. 4 pin base	12.00	113
CE-221	4B25	6.4 amp. full wave gas filled 200 volts DC special 4 pin base	15.00	125
CE-224	4B24	2.5 amp. full wave gas filled 200 volts DC No. 412 4 pin base	9.60	124
CE-226	R-6-A	6 amp. half wave gas filled 90 volts DC Mogul Screw base	5.00	112
CE-230	3B24	.060 amp. 20,000 half wave high vacuum rect. med. 4 pin base	12.00	123
CE-235	R-15-A	15. amp. half wave gas filled 60 volts DC Mogul Screw base	10.00	109
CE-866A/866	VT-46A	.25 amp. half wave mercury vapor 10,000 peak inverse med. 4 pin base	1.50	129
CE-869B	VT-39A	2.5 amp. half wave mercury vapor 20,000 peak inverse 3 pin jumbo base	90.00	130
CE-872A	VT-42A	1.25 amp. half wave mercury vapor 10,000 peak inverse jumbo 4 pin base	7.50	117
CE-8008	—	1.25 amp. half wave mercury vapor 12,000 peak inverse No. 4310 4 pin ind. base	8.50	128
CE-303	3C31	1 amp. grid control tube, gas filled standard 4 pin base	12.35	114
CE-304	—	12.5 amp. grid control mercury vapor 125 amp. peak current No. 4310 4 pin ind. base	55.00	119
CE-305	—	2 amp. grid control tube, gas filled, standard 4 pin base	16.40	116
CE-306	C6J	6 amp. grid control tube, gas filled, 77 amp. peak current .4 pin base No. 412	23.50	118
CE-308	—	6 amp. grid control tube, gas filled, 40 amp. peak current, 4 pin base No. 412	21.50	122
CE-309	FG17	.5 amp. grid control tube mercury vapor 5000 peak inverse med. 4 pin base	6.00	126
CE-310	—	.64 amp. shield grid gas filled 1250 peak inverse med. 4 pin base	9.85	131
CE-311	3C23	1.50 amp. grid control tube mercury and gas filled 1000 peak inverse med. 4 pin base	9.00	127
CE-393A	—	1.50 amp. grid control tube mercury and gas filled 1250 peak inverse med. octal base	9.00	127

Engineering bulletins giving detailed specifications on all tubes listed here are available and may be had upon request. The extensive engineering and manufacturing facilities which we have, make possible the development and production of many types of special tubes. If you have a problem involving the use of any CETRON tubes you are invited to consult with us. We are also prepared to make special tubes to your specifications.

WARRANTY

We guarantee all products manufactured by us to be free from all material and manufacturing defects and to give satisfactory service when operated in accordance with instructions indicated for their use.

Continental Electric Co.



CE-203

FOR QUICK VISUAL INDICATION

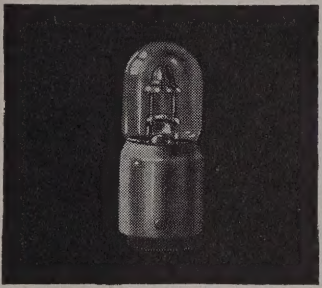
Investigate the Unique Characteristics of G-E Neon Glow Lamps

● The unique characteristics of General Electric Neon Glow Lamps recommend them for a variety of uses in radios and electronic devices . . . as indicators, voltage regulators, pilot lights and test lamps.

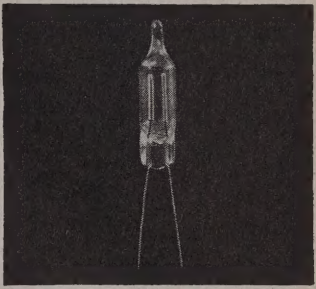
The uses described at right are typical. If you think G-E Neon Glow Lamps can be useful to you, write or phone the address below. Experienced General Electric Lamp Engineers will be glad to discuss your problems with you.

CONSIDER THESE ADVANTAGES

1. **Distinctive orange-red glow—no colored cover glass needed.**
2. **Dependable performance and long life—rated at 3,000 hours.**
3. **Very low current consumption—less than ½ milliampere for smallest lamp.**
4. **Variety of sizes and wattages.**
5. **High resistance to vibration, shock.**
6. **Normally usable on a-c or d-c.**
7. **Screw base lamps for 105-125 v. circuits; similar lamps with bayonet bases available without resistors.**
8. **Produce practically no heat.**
9. **Nearly flat volt-ampere characteristics.**
10. **Insensitive to voltage variations above critical value.**



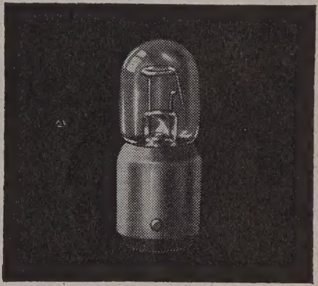
NE-48 (also NE-16). Indicator lamps. Special volt-ampere characteristics of these lamps indicate use as voltage regulators. Screw base lamp available as NE-45.*



NE-2 One of the most widely used indicator and test lamps—popular because of compactness and small size. Nominal wattage is only 1/25 watt. This lamp is unbased—has wire terminals.

**NE—16 meets JAN-1A specifications for 991. Special marking JCG-991 supplied for small extra charge.*

NE-51 For general indication, such as showing existence of potential across various parts of electrical circuits.



NE-17 Indicator and pilot light lamp that flashes to show condition of B-battery in portable radios. Frequency of flashes decreases as battery runs down.

ORDER NO.	NE-2	NE-51	NE-17	NE-48	④ NE-16	NE-45	NE-30	NE-32	NE-34	NE-36	NE-40	NE-42
Watts, Nominal	1/25	1/25	③	¼	¼	¼	1	1	2	2	3	3
Volts (Circuit)	105-125	105-125	③	105-125	105-125	105-125	105-125	105-125	105-125	105-125	105-125	105-125
Starting Voltage ① AC	65	65	③	65	—	65	60	60	60	60	60	60
Starting Voltage ① DC	90	90		90	⑤	90	85	85	85	85	85	85
Base	Unbased (Wire Terminals)	S. C. Bay. Min.	D. C. Bay. Cand.	D. C. Bay. Cand.	D. C. Bay. Cand.	Cand. Screw	Medium Screw	D. C. Bay. Cand.	Medium Screw	Sk. D. C. Bay. Cand.	Medium Screw	Sk. D. C. Bay. Cand.
Maximum Overall Length	② 1 1/16″	1 3/16″	1½″	1½″	1½″	1⅝″	2 1/16″	2″	3 5/16″	3¾″	3 5/16″	3¾″
List Price (plus tax)	$.08	$.10	$.45	$.35	$.42	$.40	$.40	$.45	$.50	$.55	$.60	$.65

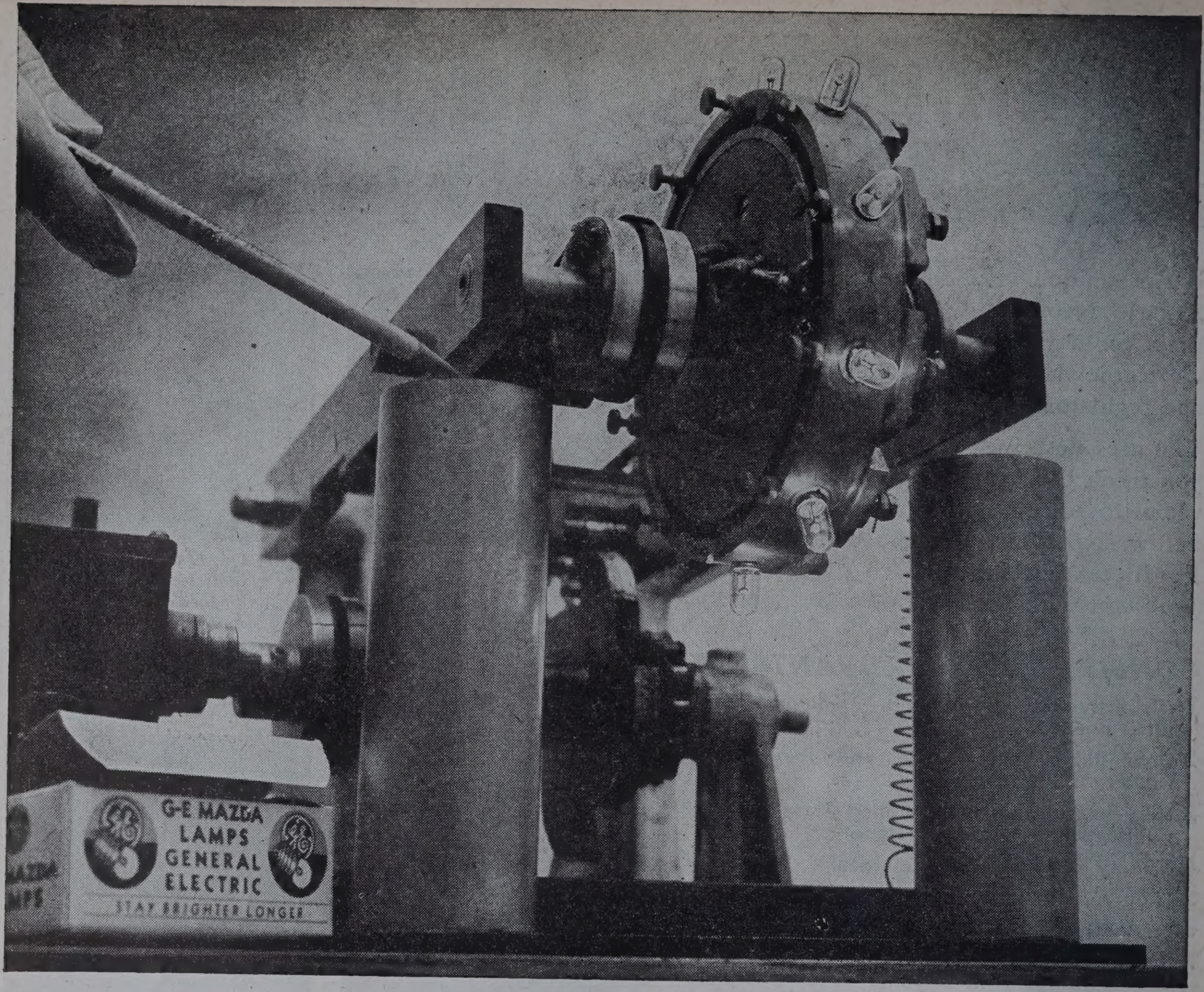
① Applies to lamp when new.
② Glass part; wire terminals extend additional 13/16″.
③ Designed for DC flashing operation in RC circuit.
④ Meets JAN-1A specifications for 991. Special marking JCG-991 supplied at small extra charge.
⑤ Designed for 67-87 Volts D.C. (D.C. operating voltage at 1.5 milliamperes, 53-65 volts).

For further information, write address below for Bulletin 7100.

NELA SPECIALTY DIVISION LAMP DEPARTMENT

GENERAL ELECTRIC

1 Newark Street, Hoboken, N. J.



It turns 'em, burns 'em and bounces 'em!

This is the rotary hot shock tester—one of many testing devices built by General Electric research engineers to assure top quality in G-E Mazda Miniature Lamps. More than once a second for eight hours, the carriage that supports the revolving wheel bounces up and down on the steel posts, giving the lighted lamps a terriffic shock.

Rigid testing and careful manufacturing controls like this are important reasons for specifying G-E Mazda Miniature Lamps for radio panels and for similar uses in other electronic devices. General Electric makes all types of miniature lamps; they are designed for longest possible life consistent with wattage and light output; they are rugged and of uniform high quality. Ask your G-E lamp supplier for G-E Mazda Miniature Lamps—or get in touch with your local G-E Lamp Department District Sales Office.

No.	40	41	43	44	46	47	48	49
Bulb	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼
Base	Min. Screw	Min. Screw	Min. Bay.	Min. Bay.	Min. Screw	Min. Bay.	Min. Screw	Min. Bay.
Rated Volts	6-8	2.5	2.5	6-8	6-8	6-8	2.0	2.0
Amps. or C. P.	0.15	0.50	0.50	0.25	0.25	0.15	.06	.06
Bead Color	Brown	White	White	Blue	Blue	Brown	Pink	Pink
Max. Overall Length	1 3/16"	1 3/16"	1 3/16"	1 3/16"	1 3/16"	1 3/16"	1 3/16"	1 3/16"
List Price	$ .09	$ .09	$ .09	$ .09	$ .09	$ .09	$ .15	$ .15

G-E MAZDA LAMPS

GENERAL ELECTRIC

WORNER Fotolectric PRODUCTS

How You Can Profit

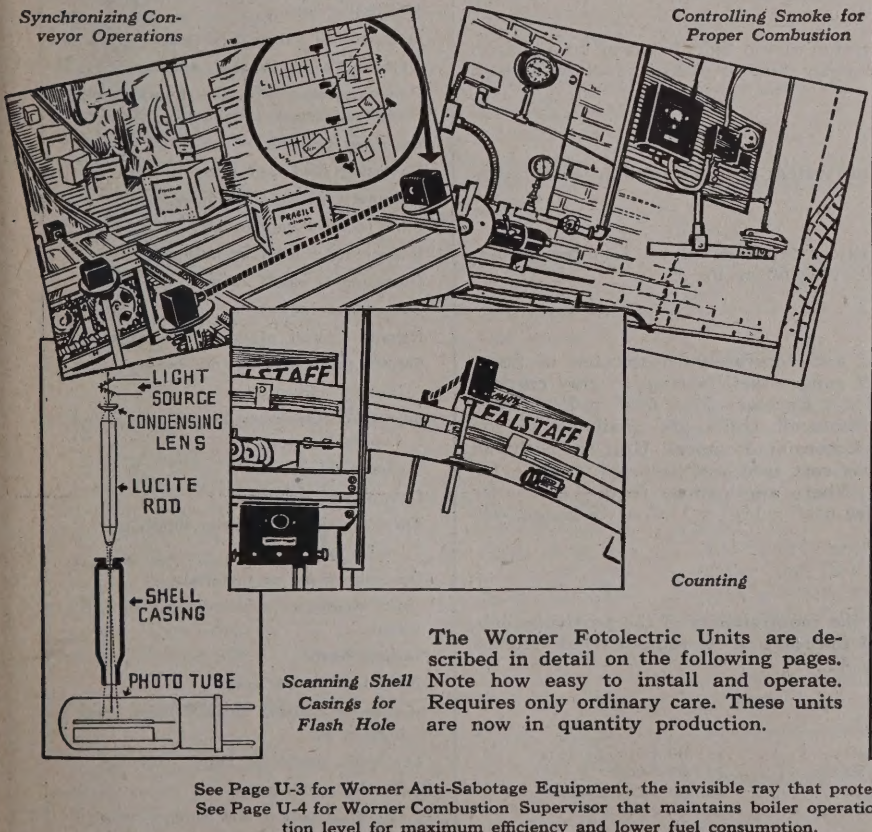
By the Use of

ELECTRONICS

War-born production speed and precision now makes "automatic operation control" vital to post-war competition.

Consider how Worner Fotolectric Units can see more accurately than the human eye; respond more quickly, more surely than the human hand . . . continuously, unfalteringly, night and day! With untiring accuracy, with unerring precision they see and act instantaneously . . . they stop, start, sort, grade, count, signal, etc. more quickly than human mental processes can begin to function.

Today, Worner Fotolectric Units are controlling hitherto unconquerable uncertainties in an amazing variety of unrelated problems. Suggestive aplications are listed here. Translate them to your problems and let us help you plan opportunities for you to capitalize at once.



Synchronizing Conveyor Operations

Controlling Smoke for Proper Combustion

Counting

Scanning Shell Casings for Flash Hole

The Worner Fotolectric Units are described in detail on the following pages. Note how easy to install and operate. Requires only ordinary care. These units are now in quantity production.

How FOTOLECTRIC Units Now Serve Industry

In addition to the many common uses described at the left, Worner Units have been adapted to handle the following and many other problems.

Control machinery by interruption of light by objects too light in weight to operate mechanical switches!

●

Control of water valves by radiant energy from hot billets that are to be descaled.

●

Shutting off boiler feed water and giving alarm when creosote is prominent in condensate thus arresting damage to boiler tubes.

●

Control for automatically wrapping bread, candy and many other packages so that the printed matter is in desired position.

●

Inspection and rejection of lightweight and empty cans that have been through cooker and are enroute to cooler. This is to prevent these cans from clogging cooler.

●

Counting of sheets in tin plate mills.

●

Pin hole detection.

●

Detecting breaks in belts, paper, wire, etc.

●

Automatically controls amount of artificial illumination according to change in natural light.

●

Control of tower street beacon signs, etc. Turns lights on and off at a predetermined intensity.

●

Flame control in oil or gas burners to prevent explosion by preventing flow of combustibles after flame is extinguished.

●

Automatic control of flow of materials on conveyors or belts.

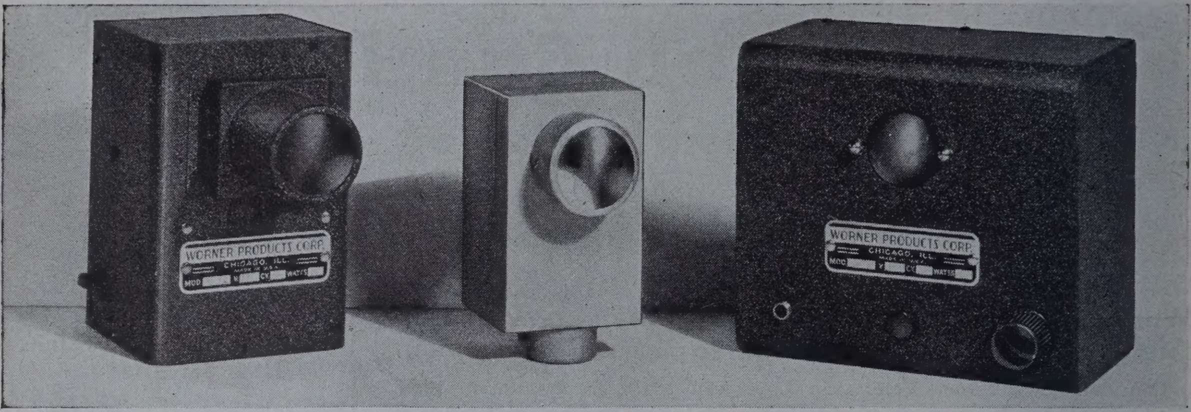
●

Control of humidity in room where shoe soles are conditioned before going into production.

NOTE: *What is your problem? Let Worner Electronics Engineers solve it for you.*

See Page U-3 for Worner Anti-Sabotage Equipment, the invisible ray that protects life and property.
See Page U-4 for Worner Combustion Supervisor that maintains boiler operation at correct combustion level for maximum efficiency and lower fuel consumption.

WORNER *Fotolectric* PRODUCTS



Light Source for 2-Unit Set

Extension Photocell for 3-Unit Set
Extension Light Source for 3-Unit Set

Amplifier and Relay for 2-Unit and 3-Unit Sets

Two and Three-Unit Sets

The Two-Unit Set consists of a Light Source and a Photo-Electric Receiver equipped with a sensitivity control and an on-off switch. The Three-Unit Set consists of an Amplifier, an Extension Photo-Cell and an Extension Light Source. The Amplifier contains relay, sensitivity regulator, power supply and output terminal. The Extension Photocell Unit is available in three sizes for convenient installation where space limitations are a factor.

Operation

The sets will operate upon interruption of the light beam or on a change of light intensity. Response is sufficiently fast to open and close built-in relays up to 500 times per minute.

Lamp Life

Lamp life in either two or three-unit-system is approximately 2000 hours.

Relays

Relays are double pole, double throw types rated at 3 amperes non-inductive, 1 ampere inductive at 110 volts, 60 cycles AC.

Construction

Each unit is carefully engineered and accurately constructed of finest parts. Cases are sturdily made of 19 gauge steel, finished in gray crackle. Light Source measures 6″ x 7″ x 4⅛″; Receiver 7″ x 6¼″ x 4¼″. Wall brackets are included. Extension Photocell Units are available in the following three sizes: The standard Extension Photocell Unit for both the Light Source and the Photo Cell has cast iron weatherproof housing for ½″ conduit, size 4½″ x 3″ x 2¾″. Where applications require a smaller extension unit, order our 18 gauge size 6¼″ x 1⅝″ x 1⅝″ or 18 gauge, size 3¾″ x 1⅛″ x 1⅛″.

Installation

The installation will vary to meet the requirements of the particular job. We shall be glad to supply detailed information on request. Both models are for use from 110 volts, 60 cycles AC.

List Prices

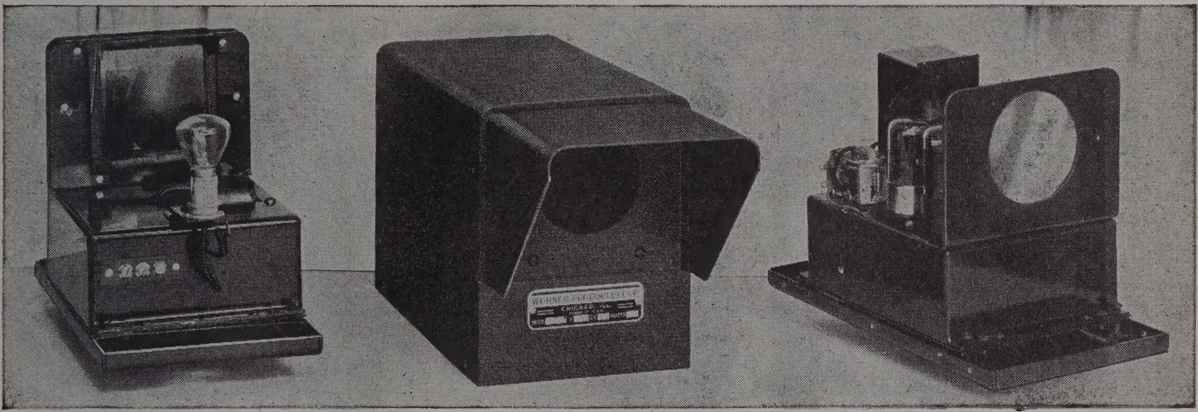
MODEL 2801-RL	Amplifier and Relay	$55.00	For distances under 4 feet.
MODEL 2801-LL	Extension Light Source	$12.00	
MODEL 2801-R	Amplifier and Relay	$55.00	For distances over 4 feet
MODEL 2801-L	Extension Light Source	$12.00	
MODEL 2104	Amplifier and Relay	$60.00	
WODEL 2304	Extension Light Source	$ 8.50	
MODEL 2204	Standard Extension Photocell	$ 8.50	

(For smaller size Extension Photocell, write for quotation.)

We will gladly furnish you with details pertaining to our experience in the following applications or any other application not listed here.

- Remote control of machines, doors.
- Ventilation control.
- Operation of valves & switches.
- Detecting paper breaks (printing).
- Production inspection and counting, sorting, sizing, and weighing.
- Conveyor Control.
- Reversing steel mill rolls.
- Automatic package wrapping.
- Spray control for painting.
- Registering control (printing).
- Operation of safety doors.
- Auto speed indicators.
- Remote control of dangerous processes.
- Safety protection of oil burners, gas burners and stokers.
- Safeguards expensive dies on punch and forming presses.
- Elevator safeguards.
- Control and inspection.
- Turbidity control in water supply.
- Titration of chemicals.
- Detecting flaws in materials.
- Color Analysis—matching and comparison
- Sorting Foods.
- Control of cut-off saws.
- Measuring liquids, tanks, bottles, cans, barrels, etc.
- Automatic control of paper trimming.
- Calipering small parts.
- Room illumination and window display control.
- Airport, aviation and lighthouse beacons.

WORNER *Fotolectric* PRODUCTS



Light Source *Weatherproof Case for Each Unit* *Robot*

ANTI-SABOTAGE EQUIPMENT

For The Plant That is NOT EXPENDABLE . . .
THE INVISIBLE RAY THAT PROTECTS LIFE AND PROPERTY

The Worner Anti-Sabotage system is an extremely flexible photocell sentinel. Provides protection that cannot be bribed. For the war plant, warehouse, shipyard, light plant, railroad yard anywhere! Carefully engineered, incorporating most practical features to assure utmost protection. Projects a beam of infra-red (invisible) rays which, when interrupted, actuate a relay which, in turn, operates an alarm or series of alarms. The alarm may be Visible or Audible, it may be local and may also be hooked up to the closest police headquarters.

> *Worner Anti-Sabotage systems are protecting vital plants throughout the country. In shipbuilding yards, in factories, in power plants, Worner systems serve as ever vigilant sentinels to protect the increasing flow of materials so necessary to the successful conduct of the war.*

Operates Indoors or Outdoors

Indoor installation shows exact room in which trespass occurs; Outdoor installation locates trespasser within 500 feet. Can also be connected to turn on floodlights in the area where the trespass occurs. The entire installation may be invisible if desired. The units comprising the system are small and readily hidden from view. The projected infra-red rays are invisible, and so the intruder —even if he suspects the presence of a photo-cell system—is not aware of its location.

Two Standard Models

Available with ranges of 250 feet and 500 feet respectively. Where greater coverage is required, send detailed information and sketches showing areas to be protected. Quotations will be promptly supplied, covering a system engineered to that particular job. Installation is simple and can be made by anyone with a little electrical knowledge.

Specifications

The Worner Anti-Sabotage Equipment consists of the Robot and Light Source illustrated above. A weatherproof metal case covers each unit. The visor protects lenses against rain or snow.

Lamp Life

The life of the lamp in the Light Source is approximately 1000 hours.

Relays

Relays are all double pole, double throw types. Maximum current capacity is 3 amperes at 110 volts, 60 cycles AC non-inductive and 1 ampere inductive load.

Construction

The cases are built of sturdy 14 gauge steel, and all joints are carefully welded for complete weatherproofing. Case size is 7″ high, 5¾″ wide and 1¾″ deep. Finished in brown wrinkle enamel. Equipped with mounting flanges which accommodate 1½″ pipe. For operation from 110 volts, 60 cycles AC. Complete with tubes.

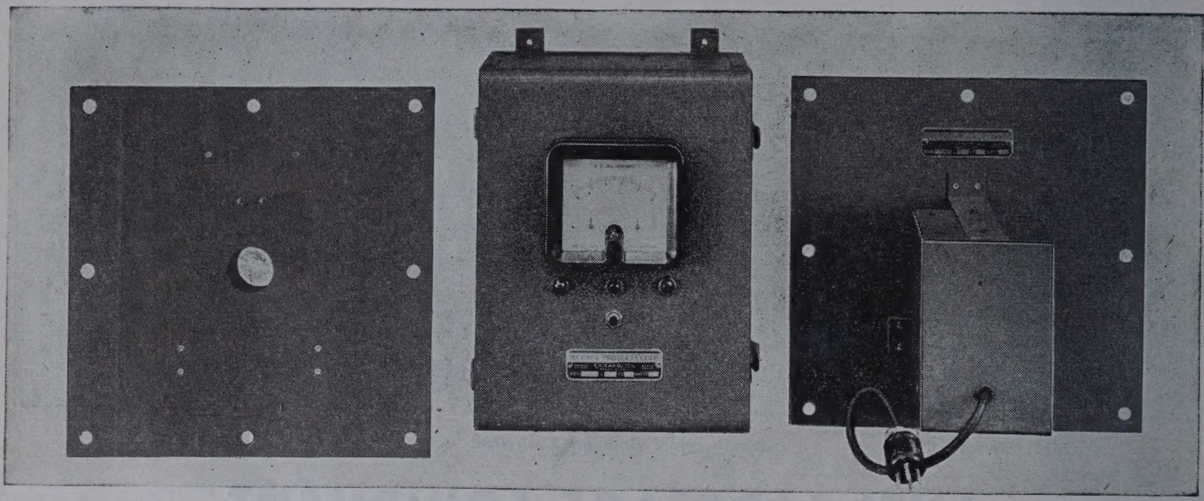
Model No.		List Price	Ship. Wt.
2250	250 foot range*........	$170.00	33 lbs.
2500	500 foot range*........	265.00	33 lbs.

* Both models are equipped with a scientifically engineered device for limiting the unwanted-light. The Worner unwanted-light rejector materially increases the daylight range of the unit if equipment is installed so that 90% of the light reaching the Photo-Cell is that generated by the Light Source.

Burglary Protection

For burglary protection, ranges are available from 100 to 500 lineal feet. Write for Engineering Bulletins on Burglary Protection.

WORNER *Fotolectric* PRODUCTS



Light Source *Control Cabinet* *Photocell Receiver*

COMBUSTION SUPERVISOR

Maintain Boiler Operation at Correct Combustion Level

Get Maximum Efficiency • Reduce Fuel Consumption

Essential wherever a boiler is used. It is of greater-than-ever importance under today's conditions of high-speed performance. It is a photo-cell system which accurately and dependably operates conbustion controls to maintain boiler operation at maximum efficiency, and accuracy. It works on a "smoke detection" principle. A more-than-normal increase in the density of smoke passing through a boiler breeching means a reduction in heat, loss of efficiency, increase in fuel consumption and operating costs, and a violation of ordinances directed at control of the smoke nuisance.

Entirely Automatic

The Combustion Supervisor is easily installed (requires only two small openings) across the breeching leading from a boiler. Provides dependable warning when smoke density increases beyond a permissible level. It is entirely automatic, eliminates possibility of errors from the "human element" and provides control of amazing accuracy and flexibility.

Flexibility

As easy to regulate as a pressure gauge. Responds to any magnitude of smoke density to assure a maximum efficiency and economy in boiler performance. Condition of smoke density is shown at all times by the *meter* and the *colored jewels* on the front of the Control Cabinet. If a permanent and continuous record of boiler behavior is desired, a *recording meter* may be used. Built-in relays can be connected to operate any Audible or Visible alarm and any combustion control mechanism. To avoid "false alarms" resulting from an excess smoke density of momentary duration, the Combustion Supervisor is equipped with a variable time-delay which may be adjusted to control operation for any interval, from instant to one minute. We have designed a triple method of air flow with removable glass baffle for easy cleaning.

Complete, Compact, Convenient

The system consists of three units: a Light Source which projects a beam across the area to be protected; a Receiver which contains a sensitive Photocell; a Control Cabinet which contains Amplifiers, Relays, Terminals for Power, Control and Alarm, Light Intensity Regulatory, Photocell Sensitivity Regulator, Time-delay Regulator, Operating Signals, Smoke Density Meter and Restoration Control Button.

Lamp Life

Average life ranges from 2000 to 3000 hours depending upon brilliance of beam required.

Relays

Relays are double pole, double throw types rated at 3 amperes non-inductive, 1 ampere inductive at 110 volts, 60 cycles AC. If more current must be handled, auxiliary relays may be connected to terminals on control panel.

Construction

Cases are built of 14 gauge steel and are equipped with standard outlet boxes. Light Sourse if built on a 12" x 12", 14 gauge steel flange which is provided with 8 holes for easy mounting. Control Cabinet is 11¾" high, 9" wide and 5" deep. Fifteen feet coaxial cable supplied as standard. For greater length, please specify. For operation from 110 volts, 60 cycles AC.

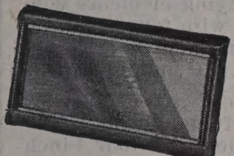
	List Price	*Shipping Wt.*
MODEL 2101-A—For use where no time delay is necessary. Usually used as an alarm device, not to control automatic combustion correcting equipment.	$100.00	33 lbs.
MODEL 2101-B—For use with combustion control equipment. Equipped with time delay to arrest operation of control equipment from voltage drop and short puffs of smoke....	$150.00	33 lbs.
MODEL 2101-C—For use with combustion control equipment. Equipped with time delay to arrest operation of control equipment from voltage drop and short puffs of smoke. An additional time delay holding control to continue operation of combustion correcting equipment for a predetermined period of time. Prevents cycling of equipment............	$175.00	35 lbs.

SELENIUM CORPORATION of AMERICA

SCA Selenium Instrument Rectifiers
SCA Selenium Power Rectifiers

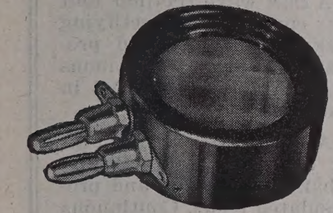
SCA Selenium Self-Generating Photo Cells
1717 West Pico Boulevard, Los Angeles 15, California

SCA PHOTO-ELECTRIC CELLS



S-100-W

Self-generating type and is manufactured in three sensitivity grades. The output is 320 amperes at 100 ft. candles. The cell is mounted in metal case with two terminals in the back of the case. The overall dimensions are $1\frac{11}{16}$" x ⅞" x ¼".

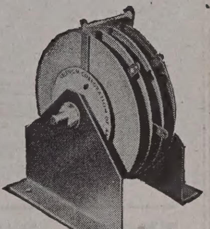


R-100-W

Self-generating photo cell has output of 600 micro amperes at 100 ft. candles. Characteristics permanent and unit withstands most severe conditions of use.

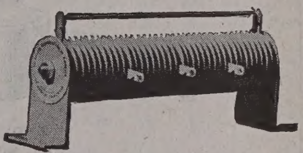
Ask for 12-page Booklet on Photo Cells

SCA SELCOCHARGER



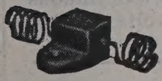
Use the Selcocharger as an "A" eliminator. Maximum AC input 18 volts, single phase. DC output 12 volts, 4.5 amperes DC into a resistive or inductive load.

SCA SELCOPACK



Use the Selcopack as a "B" eliminator. Rating 80 to 90 volts, 0.240 amperes DC into a resistive or inductive load. AC input 110 volts, single phase.

SCA INSTRUMENT RECTIFIERS



HS

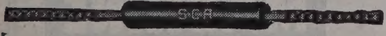
Type HS is a half wave rectifier assembled in plastic case with mounting extension. Maximum AC input 5 volts, maximum DC current output .008 amperes.

HL

Half wave rectifier consisting of one type L rectifying plate mounted in aluminum case. The entire assembly is covered with salt spray resistant coating. Terminals are sealed. AC volts 5 maximum current .020 amperes.

N-2

Input 10 volts AC. Half wave. Continuous DC .001 amperes. Used with meters, detector circuits, bias voltage.

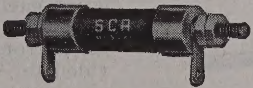


N-25

Input 250 volts AC. Half wave. Continuous DC .001 amperes. Suitable for high frequency applications.

HO-20

Consists of twenty type O rectifying elements assembled in bakelite tubing with two screw-on caps, cadmium plated. Soldered terminals as well as 6-32 screw terminals are provided. The entire unit is less than 1½ inches long and is rated at 220 volts .005 amperes.

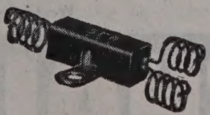


HO-10

Half wave rectifier assembled with ten type O plates. Case and terminals similar to HO-20. Rating AC volts 110, DC .005 amperes.

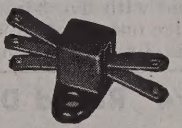
CS

Consists of two center tapped type S rectifying elements. Maximum AC volts 10, DC .008 amperes. Rectifying elements are assembled in plastic case. 2-inch long flexible leads soldered to the terminals are supplied with the unit.



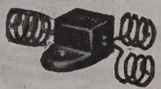
CL

Center tapped rectifier consisting of two type L elements. Rating AC volts 10, DC .035 amperes. The aggregate is coated with salt spray resistant coating.



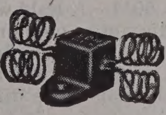
HS 4-MO

Consists of four closely matched rectifying plates specially suitable for modulation and demodulation. Five leads 2 inches long soldered to terminals are provided.



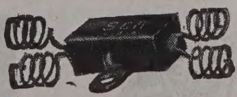
BS

Consists of two rectifying elements type S connected in series, assembled in plastic case. AC volts 5, DC .005 amperes.



DS

Input 10 volts AC. Full wave bridge. Continuous DC .010 amperes. Unbreakable plastic case with mounting extensions.



DL

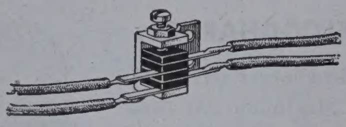
Input 10 volts AC. Full wave bridge. Continuous DC .035 amperes. Mounted in aluminum case with mounting extension.

WRITE FOR COMPLETE LITERATURE ON SCA INSTRUMENT RECTIFIERS

ELECTROX RECTIFIERS

Full and Half Wave Low-Capacity Copper Oxide Rectifiers
For Instruments, Test Sets, and Similar Applications

TYPE A—3/16" Square Disks - DC Output - 5 Milliamperes

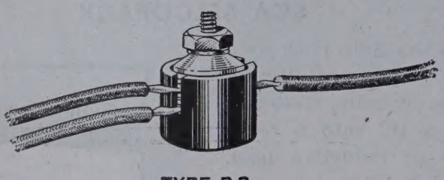


TYPE A-4
CAT. No. 5020

Type A-4, Cat. No. 5020—A full wave rectifier unit with four 3/16″ square copper oxide rectifying elements contained in metal housing and provided with four 3-inch insulated leads. Continuous service output of 5 MA at a maximum of 3 volts DC. Maximum AC input 4 volts.

Type AA-4, Cat. No. 5064—A full wave rectifier unit with four 1/8″ diameter copper oxide rectifying elements contained in bakelite housing and provided with four 4-inch bare leads. Continuous service output of 1 MA at a maximum of 1 volt DC. Maximum AC input 1.5 volts.

TYPE B—7/16" Round Disks - DC Output - 20 Milliamperes



TYPE B-2
CAT. No. 5047
CAT. No. 5049

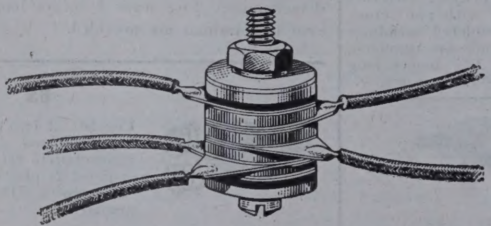
Type B-4, Cat. No. 5016—A full wave rectifier unit with four 7/16″ diameter copper oxide rectifying elements provided with five 3-inch insulated leads. Continuous service output of 20 MA at a maximum of 3 volts DC. Maximum AC input 4 volts.

Type B-1, Cat. No. 5048—A half wave rectifier unit with single 7/16″ diameter copper oxide rectifying element contained in bakelite housing and provided with two 3-inch insulated leads. Continuous service output of 13 MA, DC, and 3 volts AC in the reverse or high resistance direction.

Type B-2, Cat. No. 5047—A half wave rectifier unit with two 7/16″ diameter copper oxide rectifying elements contained in a bakelite housing and provided with three 3-inch insulated leads. Continuous service output of 13 MA, DC. Maximum AC input 4 volts.

Type B-2, Cat. No. 5049—A half wave rectifier unit with two 7/16″ diameter copper oxide rectifying elements contained in a bakelite housing and provided with three 3-inch insulated leads. Continuous service output of 13 MA, DC, and 3 volts AC per disc in the reverse or high resistance direction.

TYPE C—3/4" Round Disks - DC Output - 50 Milliamperes



TYPE C-4
CAT. No. 5017

Type C-1, Cat. No. 5011—A half wave rectifier unit with single 3/4″ diameter copper oxide rectifying element provided with two terminal lugs. Continuous service output of 32 MA, DC and 3 volts AC in the reverse or high resistance direction.

Type C-2, Cat. No. 5057—A half wave rectifier unit with two 3/4″ diameter copper oxide rectifying elements provided with three terminal lugs. Continuous service to supply an output of 32 MA, DC and 3 volts AC per disc in the reverse or high resistance direction.

Type C-2, Cat. No. 5010—Two half wave rectifier units, each with single 3/4″ diameter copper oxide rectifying element, mounted on one bolt, and insulated from one another. Two terminal lugs provided for each section. Each unit rated to supply an output of 32 MA, DC, with maximum of 3 volts AC in the reverse or high resistance direction.

Type C-4, Cat. No. 5014—A full wave rectifier unit with four 3/4″ diameter copper oxide rectifying elements provided with five terminal lugs. Continuous service output of 64 MA at a maximum of 3 volts DC. Maximum AC input 4.1 volts.

Type C-4, Cat. No. 5017—A full wave rectifier unit exactly the same as Cat. No. 5014, with the exception that 3-inch insulated leads are supplied for connecting the rectifier units.

Write for Complete Descriptive Bulletin 446

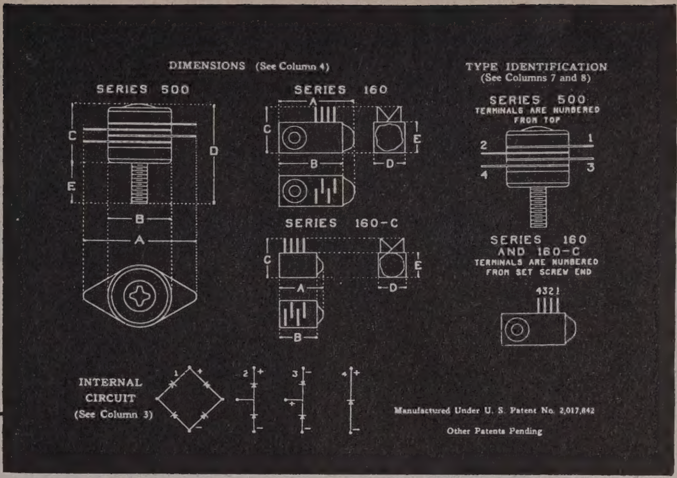
ARMY E NAVY
Awarded
Oct. 1942

SCHAUER MACHINE COMPANY

Since 1930 Makers of Rectifiers for Every Purpose

2071 READING ROAD — CINCINNATI 2, OHIO

Conant Instrument Rectifiers



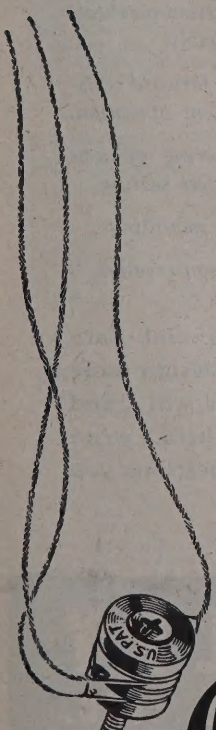
Manufactured Under U. S. Patent No. 2,017,842

Other Patents Pending

SPECIFICATIONS (STANDARD TYPES)

Column 1	2	3	4					5	6	7	8				9						10
											Color, Terminal Number				PEAK ELECTRICAL RATINGS						
		Internal Circuit	Dimensions (Inches)					Mounting Screw Size	Weight (Grams)	Number of Terminals					Instantaneous		Intermittent		Continuous		*List Price
Type	Series		A	B	C	D	E				1	2	3	4	Volts	Mils	Volts	Mils	Volts	Mils	
M	500	1	.890	.500	.485	.800	.328	6-32	13.012	4	RED	no	BLK	no	30	100	20	60	10	30	$3.50
HS	500	2	.890	.500	.445	.800	.360	6-32	9.158	3	RED	no	BLK	—	15	100	10	60	5	30	2.70
T	500	3	.890	.500	.445	.800	.360	6-32	9.158	3	no	RED	no	—	30	100	20	60	10	30	2.70
H	500	4	.890	.500	.400	.800	.392	6-32	7.730	2	RED	no	—	—	15	100	10	60	5	30	1.50
B	160	1	.595	.485	.375	.250	.250	2-56	3.400	4	RED	no	BLK	no	30	15	20	10	10	5	3.50
BHS	160	2	.625	.550	.375	.250	.250	2-56	2.880	3	RED	no	BLK	—	15	15	10	10	5	5	2.70
BT	160	3	.625	.550	.375	.250	.250	2-56	2.880	3	no	RED	no	—	30	15	20	10	10	5	2.70
BH	160	4	.625	.550	.375	.250	.250	2-56	2.700	2	RED	no	—	—	15	15	10	10	5	5	1.50
B-C	160-C	1	.345	.297	.310	.220	.200	none	1.743	4	RED	no	BLK	no	30	15	20	10	10	5	3.50
BHS-C	160-C	2	.345	.297	.310	.220	.200	none	1.385	3	RED	no	BLK	—	15	15	10	10	5	5	2.70
BT-C	160-C	3	.345	.297	.310	.220	.200	none	1.385	3	no	RED	no	—	30	15	20	10	10	5	2.70
BH-C	160-C	4	.345	.297	.310	.220	.200	none	1.293	2	RED	no	—	—	15	15	10	10	5	5	1.50

Over ninety per cent of all rectifier requirements are served by 12 types—4 basic assemblies in 3 series. These 3 series are the three primary units of Conant rectifiers. Special types, however, can be developed as needed, and you'll find Conant ready to cooperate.



SERIES 500 UNITS are for general applications requiring greater output current for meters, relays or other apparatus requiring more than 1 milliampere. Recommended for all such applications at commercial and the lower audio frequencies. Will also operate up to 50,000 c.p.s. in special applications wherein accuracy of readings is not essential.

SERIES 160 and 160-C are for applications requiring good frequency response over the entire commercial and audio range and especially when the meter, relay or other apparatus requires less than 1 milliampere for operation. In some special applications these units may be operated at frequencies up to 15,000,000 c.p.s. with special circuit treatment.

SPECIAL TYPES are available in both series 500 and 160-C. When requesting a quotation on a special type include a sketch of the rectifier required or a circuit diagram showing source and frequency of the input voltage, resistance and kind of load, required load current and the ambient temperatures.

SERIES 500 Disc diameter .500 inch. Area each disc .15 square inch. Furnished with 3" braided, tinned copper leads. Finished in clear lacquer. Nickel plated end plates.

SERIES 160 Disc diameter .160 inch. Area each disc .02 square inch. Furnished with 3" stranded, tinned double silk covered copper leads. Nickel plated case. Assembly sealed with specially developed moisture proof compound.

SERIES 160-C Disc diameter .160 inch. Disc area, lead wire and length and moisture proof seal are identical with Series 160. Dimensions of the nickel plated case have been reduced to the most compact size. These units may be mounted in a standard midget fuse clip.

Conant Instrument Rectifiers are available from leading radio jobbers everywhere—consult your local jobber.

CONANT

Instrument Rectifiers

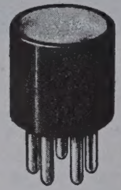
ELECTRICAL LABORATORIES

6500 O STREET, LINCOLN 5, NEBRASKA, U. S. A.

20 Vesey St., New York 7, New York
85 E. Gay St., Columbus, Ohio
600 S. Michigan Ave., Chicago 5, Ill.
1215 Harmon Pl., Minneapolis 3, Minn.
2017 Grand Ave., Kansas City, Mo.
7935 Eustis St., Dallas 18, Texas
4018 Greer Ave., St. Louis, Mo.
1526 Ivy St., Denver, Colo.
4214 Country Club Dr., Long Beach 7, Cal.
4205 N.E. 22nd Ave., Portland 11, Ore.
Caixa Postal 930, Sao Paulo, Brazil
50 Yarmouth Rd., Toronto, Canada

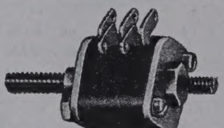
NEW RECTIFIERS FOR SIMPLIFICATION OF CIRCUIT DESIGN PROBLEMS

STANDARD MODELS OF COPROX RECTIFIERS

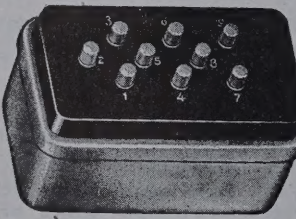


Coprox Model CX-2E4-A9, ring-connected and mounted in tube base, detects phase differentials in A.C. currents and small D.C. potentials applied to balanced A.C. circuits. Maximum 4.5 volts continuous. Shown here in actual size.

Coprox Model CX-1C2B1, a center tap, full wave rectifier. Completely enclosed in Bakelite. Low capacitance. Rectifies high frequency current. Conservatively rated up to 4.5 volts A.C., 3.0 volts D.C., 500 microamperes D.C. Other models and capacities to meet all needs.



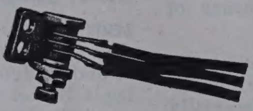
Coprox Model CX-4D4F23, a full wave rectifier with high conversion efficiency, for electronic control work. Rated at 5 volts A.C., 40 milliamperes D.C. continuous. Fully enclosed. Mounts on a single screw.



Coprox CX-3E8C3 double bridge rectifier with current and temperature current characteristics balanced to better than 1% over a range of —40°C to +70°C. Rated up to 4.5 volts A.C., 3 volts D.C. 5 milliamperes D.C. Other models and capacities to meet all needs

Coprox CX-2E1H5 (Not illustrated) Single half-wave rectifier rated up to 4.5 volts A.C., 3.0 volts D C., 2.5 milliamperes D.C.

Coprox CX-2E4F2 (Not illustrated) Full wave rectifier rated up to 4.5 volts A.C., 3.0 volts D.C., 5 milliamperes D.C.

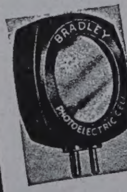


Coprox CX-2E2D4 (Above) Double half-wave rectifier rated up to 4.5 volts A.C., 3.0 volts D.C., 2.5 milliamperes D.C.

Many variations are possible with the basic Coprox Rectifier models described at the left. Bradley's application experience can help you, not only in the use of these units but also in the development and production of special rectifiers for special jobs. Here are the special features of all Bradley Coprox Rectifiers:

- *Gold coating of "pellets" to combat aging.*
- *Pre-soldered lead wires, or special terminals, to prevent overheating during assembly.*
- *High leakage, low forward resistance, for efficient operation.*
- *Waterproof lacquering or wax potting, for perfect sealing.*
- *Highly adaptable mountings.*
- *Ratings are very conservative.*

For samples and special data which will help you design more efficient circuits that will stand up longer than others, write Bradley. Ask any questions you have in mind.



LUXTRON PHOTOCELLS

A Bradley booklet is available, to suggest the many ways in which Luxtron* photocells can be used for control and testing purposes. These cells generate sufficient current to operate instruments and instrument relays without amplification. They, too, are built for long life and have varied mountings and a wide range of sizes. (*Trade Mark Reg. U. S. Pat. Off.)

BRADLEY
LABORATORIES, INC.
82 MEADOW ST., NEW HAVEN 10, CONN.

Special Price List of Bogen Sound Equipment

Subject to Change without Notice

IMPORTANT — PLEASE READ AND SAVE TIME!

LOW IMPEDANCE INPUTS: Models EL35, and HH-HLO Preamplifiers can be obtained with additional Low Impedance Inputs built-in at an extra cost of $23.75 per input. Specify when ordering.

Additional Low Impedance Inputs are obtainable on Models EL75 — EL30 — EL14 at an extra cost of $17.50. Specify when ordering.

RACK AND PANEL MOUNTING: All Bogen Amplifiers, Boosters and Preamplifiers are available for rack and panel mounting if specified when ordering. Models E75 — E8 — E10 — E100 add $8.00. Models with Sloping Panels — EX35 — E30 — E14 — HH — HLO — LLO — add $10.00.

REMOTE CONTROL CIRCUITS: Models E14 — EL14 — E30 — EL30 — E75 — EL75 can be obtained with remote control circuits for all inputs, built-in, at an extra cost of $5.00, if specified when ordering.

REMOTE CONTROL UNIT: Model SRC50 — SR Remote Control complete with 50 ft. Cable and Plugs for use with all Bogen Amplifiers equipped for Remote Control. Price $11.00.

CHOICE OF MICROPHONES: All Bogen Systems can be obtained with a choice of microphones other than those listed with each system. Choices are enumerated after each system. Specify microphone selected when ordering, and ask for information regarding additional cost.

PAGES C-2 AND C-3

Model	*List Price*
EX35 Amplifier & Tubes	$139.50
EL35 Amplifier & Tubes	163.25
EX35F Basic System	235.00
EX35B Indoor System	257.00
EX35P Portable System	265.25
EX35T Outdoor System	311.50
Extra Kit of Tubes	15.05
EX326 Amplifier & Tubes	224.25
EX326F Mobile System	289.75
EX326T Outdoor System	371.25
A H G Special Microphone Handle	5.00
Extra Kit of Tubes	11.70

PAGES C-4 AND C-5

Model	*List Price*
E75 Amplifier & Tubes	$162.50
EL75 Amplifier & Tubes	180.00
E75F Basic System	314.00
E75B Indoor System	358.00
E75T Outdoor System	467.00
Extra Kit of Tubes	19.50
E30 Amplifier & Tubes	93.75
EL30 Amplifier & Tubes	111.25
E30F Basic System	144.25
E30B Indoor System	166.75
E30P Portable System	164.25
E30T Outdoor System	223.75
Extra Kit of Tubes	10.80

PAGES C-6 AND C-7

Model	*List Price*
E14 Amplifier & Tubes	$ 71.50
EL14 Amplifier & Tubes	89.00
E14F Basic System	122.00
E14B Indoor System	144.50
E14P Portable System	142.00
Extra Kit of Tubes	10.45
E1620 Amplifier & Phono & Tubes	156.25
E1620F Basic System	205.00
E1620T Outdoor System	229.00
Extra Kit of Tubes	7.85
E80 Booster Amplifier & Tubes	155.00

PAGES C-8 AND C-9

Model	*List Price*
E10 Amplifier & Tubes	$ 51.25
E10F Basic System Complete	89.00
E10B Indoor System Complete	106.50
E10P Portable System Complete	104.50
Extra Kit of Tubes	6.30
E66 Amplifier & Tubes	54.50
E66F Mobile System Complete with "MB" Speaker Bracket	92.00
Extra Kit of Tubes for E66	5.20
MB Mobile Speaker Bracket only	3.75
HH Preamplifier & Tubes	52.50
HLO Preamplifier & Tubes	87.50
LLO Preamplifier & Tubes	177.50
E100 Booster Amplifier & Tubes	144.50
Extra Kit of Tubes for E100	10.75
8007 Portable Phonograph	45.50
8016 Portable Phonograph	71.50
8016L Portable Phonograph	79.75
PT16 Portable Transcription Player	126.50
PT16AD (Discontinued for the duration)	

PAGE C-10
INTERCOMMUNICATION EQUIPMENT

Additional Models Listed in Complete Bogen Catalog.
ALL PRICES INCLUDE TUBES

MASTER TO REMOTE SYSTEMS

Model	*List Price*
4A 4 Station Master only	$ 39.50
4AE 4 Station Master with Earphone	45.25
12A 12 Station Master only	42.50
12AE 12 Station Master with Earphone	48.25
219A 19 Station Master only	46.25
219AE 19 Station Master with Earphone	52.00
AR Remote Station for any of above Masters	7.00
RS Remote with Call Switch for any of above Masters	9.00
CS Remote Control Call Switch can be added to any Remote	3.25

MULTIPLE MASTER SYSTEMS

Model	*List Price*
6C 6 Station Multiple Master only	$ 42.50
6CE 6 Station Multiple Master with Earphone	48.25
12C 12 Station Multiple Master only	43.75
12CE 12 Station Multiple Master with Earphone	49.50
219C 19 Station Multiple Master only	50.00
219CE 19 Station Multiple Master with Earphone	55.75

PAGE C-11
COMBINATION MULTIPLE MASTER AND MASTER TO REMOTE SYSTEMS

Model	*List Price*
112S Combination 12 Station Master only	$ 52.50
112SE Combination 12 Station Master with Earphone	58.25
125S Combination 25 Station Master only	65.00
125SE Combination 25 Station Master with Earphone	70.75
1SAR Remote Station for any "S" System	8.50
1SRS Remote Station with Call Switch for any "S" System	10.50
1RS3 Selective Remote with Call Switch to call 3 "S" Masters	12.50
1RS12 Selective Remote with Call Switch to Call 12 "S" Masters	21.00
AB10 10 Station Annunciator for use with 112S System	25.00
AB20 20 Station Annunciator for use with 125S System	41.25

PAGE C-12
UNIVERSAL INDUSTRIAL PAGING SYSTEMS

These are all Combination Multple Master and Master to Remote Systems

Model	*List Price*
S115 15 Watt 10 Station Master only	$ 95.00
S215 15 Watt 20 Station Master only	113.50
S315 15 Watt 30 Station Master only	131.50
S415 15 Watt 40 Station Master only	149.50
Note: Any "S" Paging Master is available with Earphone for privacy, if specified when ordering at an additional	6.25
BS6 Wall Mounting Walnut Remote Station for offices	11.00
BS8 De Luxe Wall Mounting Walnut Remote Station for offices	15.00
MS8 Industrial Metal Cased Remote Station for factories	16.25
IA10 10 Station Annunciator for use with S115 Master	28.75
IA20 20 Station Annunciator for use with S215 Master	47.50
IA30 30 Station Annunciator for use with S315 Master	66.25
IA40 40 Station Annunciator for use with S415 Master	82.50

FOR ADDITIONAL MODELS — ACCESSORIES — CABLES — ETC. WRITE FOR COMPLETE PUBLIC ADDRESS AND COMMUNOPHONE CATALOGS

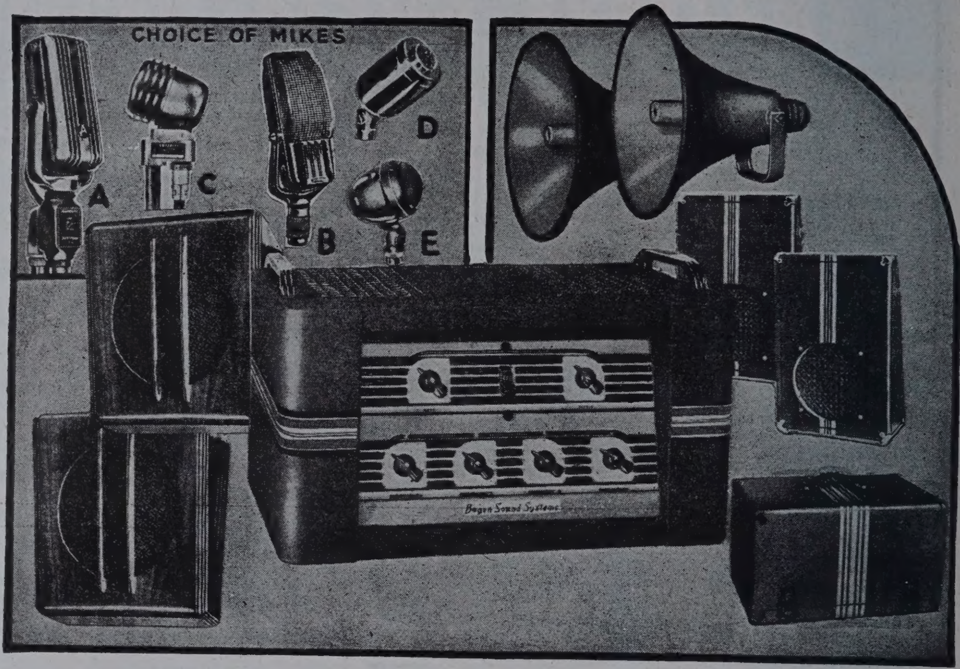
BOGEN EX35 De Luxe "*Streamliner*" Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS

35

Watts

- ★ **Exclusive *New Triple Range Electronic Tone Corrector***
- ★ **Controls Bass, Treble and Intermediate Tone Ranges**
- ★ **Four Input Channels**
- ★ **Three Microphones and Phono**
- ★ **Remote Control Circuits built in for *all* inputs**
- ★ **Illuminated Sloping Control Panels**
- ★ **Push pull 6L6 Output**
- ★ **Inverse Feedback and fixed bias**
- ★ **Weatherproof Outdoor Trumpet Systems**



COMBINING every desirable feature of advanced sound engineering with new and exclusive Bogen developments, the EX35 "Streamliners" invite comparison with any equipment in their power range. Chief among the exclusive features of the new "Streamliners" is the BOGEN TRIPLE RANGE ELECTRONIC TONE CORRECTOR. Exceeding all previous standards of performance this new circuit offers complete control of three tone ranges—Bass, Treble, and the middle register. Three separate tubes, each one acting as an electronic audio channel, control and amplify the overall tone range. A unique dual control system permits the operator to create any tone range desired regardless of the acoustics of the installation. The Electronic Tone Corrector differs completely from ordinary Bass or Treble controls or equalizers, and it has none of the objectionable features of compensators or tone controls such as power loss or distortion. Other de luxe features of the new EX35 "Streamliners" are four Input Channels for three microphones and phono—Electronic Mixing between all input channels—full range individual gain controls for all inputs and a low impedance model for installations where long microphone cables are required. The model EL35 low impedance amplifier provides one low impedance input channel. The other two microphone inputs and phono remain high impedance as in the model EX35 but if desired, additional low impedance inputs can be obtained built-in at an additional cost. A remote control circuit is built-in on all "Streamliner" models permitting mixing and fading with Bogen wired or wireless remote controls, of two microphones or one microphone and phono. Sloping control panels, illuminated, insure greater visibility and ease of operation. For further convenience variable tapped outputs are available at a terminal strip and two speaker sockets—the variable taps permitting correct matching at both points. These and many other quality features contribute greatly toward making the new Bogen EX35 "Streamliner" amplifiers second to none.

BOGEN DE LUXE MODEL EX35 "STREAMLINER"—Amplifier, complete with tubes.

LOW IMPEDANCE AMPLIFIER

DE LUXE MODEL EL35 "STREAMLINER"— Amplifier, with first microphone input channel equipped for low impedance operation—tapped at 50, 200, and 500 ohms. Specify tap setting desired when ordering. Model EL35 "Streamliner" amplifier, complete with tubes.

BOGEN EX35 "STREAMLINER" SOUND SYSTEMS

MODEL EX35F—Complete basic system includes: 1—EX35 amplifier, 1—Kit of matched tubes, 2—Jensen PM12B heavy duty 12" dynamic speakers each with 25' heavy rubber covered speaker cable and plugs and, choice of 1—(a) Amperite BH velocity microphone, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 12½' cable and plugs.

FOR INDOOR INSTALLATIONS

MODEL EX35B—"STREAMLINER"—Complete system as above but with 2—WA12 de luxe walnut baffles.

FOR PORTABLE USE

MODEL EX35P—"STREAMLINER"—Complete system as above but with 1—Heavy duty No. 134X reinforced dual speaker case and one No. 133X de luxe amplifier case.

FOR OUTDOOR INSTALLATIONS

MODEL EX35T—"STREAMLINER"—Complete system includes: 1—Model EX35 amplifier, 1—Kit of matched tubes, 2—Bogen-University 4½' reflexed non-resonant weatherproof trumpets and two Bogen-University 25-watt PM dynamic trumpet units (not dynamic cone speakers), choice of 1—(a) Amperite BH velocity microphone, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 12½' cable and plugs.

MODEL SRC50—SR Remote Control, for use with any of above systems or amplifier. Complete with Model RC 50' cable and plugs.

MODEL EX35 "STREAMLINER" SPECIFICATIONS

POWER OUTPUT: 35 watts undistorted (less than 5%)—peak power—50 watts.

INPUT CIRCUITS: Four input channels—three Microphone inputs, 1—Phono Input. All circuits may be mixed simultaneously.

INPUT IMPEDANCES: Microphone channels—High impedance 500,000 ohms. (Low impedance channels available in Model EL35 provides taps of 50, 200, 500 ohms). Phono input—high impedance —500,000 ohms.

OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.

OUTPUT IMPEDANCES: 2, 4, 9, 250 and 500 ohms available at both terminal strip and sockets.

GAIN: Microphone Inputs, 130 db. Phono Inputs, 90 db.

FREQUENCY RESPONSE: 30 to 14,000 cycles + or — 1 db. Tone corrector range—bass control—15 db. to + 13 db. at 30 cycles. Treble control—15 db. to + 12 db. at 10,000 cycles.

TONE CONTROL: Triple Range Electronic Tone Corrector; Intermediate Range, fixed, 1—Bass control, 1—Treble control.

CONTROL PANEL: Illuminated, mounting three microphone controls, one phono control, 2 electronic tone corrector controls and master AC power switch.

REMOTE CONTROL PROVISION: Built-in—provides complete mixing and fading of any two of the 4 available inputs from remote point.

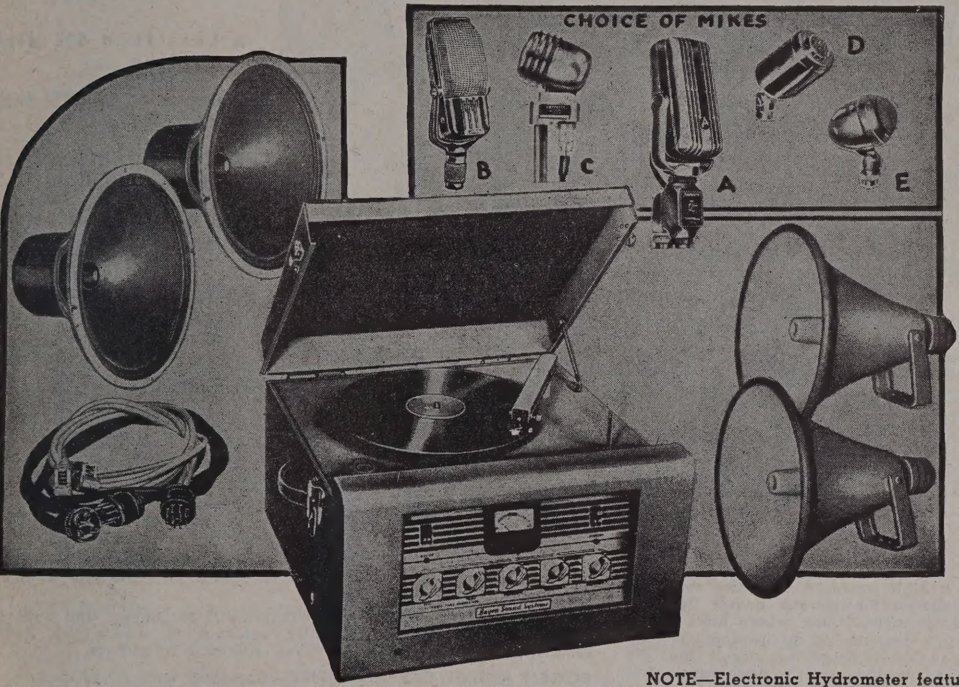
TUBES: 3—7B4, 2—7F7, 1—7B7, 1—7C7, 1—6F6, 2—6L6, 1—5U4G.

POWER CONSUMPTION: 190 watts, 117 volts, 50-60 cycles A.C.
DIMENSIONS: 16½" x 8½" x 10¼".

PRICES LISTED ON PAGE C-1

BOGEN EX326 *De-Luxe* MOBILE SYSTEMS

UNIVERSAL FOR 6 VOLTS DC AND 115 VOLTS AC OPERATION



FEATURES

- ★ 32 Watts
- ★ No Outside Power Packs
- ★ Two Speed Motor
- ★ Electronic Tone Corrector
- ★ 3 Channel Input
- ★ Automatic Changeover from AC or DC
- ★ Standby Switch - for Battery Economy
- ★ Provision for Remote Mixing

NOTE—Electronic Hydrometer feature discontinued for duration.

MODEL EX326 UNIVERSAL MOBILE SYSTEM is recommended wherever the finest in sound is required.
* Makes passenger car easily convertible for sound work.
* Makes ideal portable unit for truck use.
* Will amply cover all average requirements for indoor and outdoor use.

NO OUTSIDE POWER PACKS REQUIRED

The EX326 is completely self contained in one compact unit including amplifier, and phono assembly with its own hinged cover. A six volt D. C. and 115 volt A. C. power supply is built in. Changeover is automatic.

THREE INPUT CHANNELS

The EX326 allows mixing of two microphones and phono at the same time.

TRIPLE RANGE ELECTRONIC TONE CORRECTOR

An extremely important feature of the EX326 is the Bogen Triple Range Electronic Tone Corrector. Exceeding all previous standards of performance this new circuit offers complete control of three tone ranges, Bass, Treble and the Middle register. A unique dual control system permits the operator to create any tone range desired regardless of the acoustic condition of the installation. The Electronic Tone Corrector differs completely from ordinary Bass or Treble controls or equalizer, and it has none of the objectionable features of compensators or tone controls such as power loss or distortion.

ELECTRONIC HYDROMETER CONSTANT CHECK ON BATTERY

An exclusive Bogen feature is the new Electronic Hydrometer which is a special meter mounted on the control panel. This meter gives an accurate check of the condition of the battery at all times under load.

STANDBY SWITCH

A switch located on the control panel cuts the B power but allows the tubes to remain heated, ready for instant return to operation. REMOTE STANDBY SWITCH is incorporated in special microphone handle—performs same function except at any distance away from the amplifier. This standby switch on your Bogen amplifier means reducing battery consumption.

DASHBOARD OR EXTERNAL REMOTE CONTROL

A very desirable feature on the EX326 is the provision for connecting the Bogen remote control unit which may be mounted on the dash for finger tip operation or used at distances up to 2000 feet or more for controlling volume of any two channels. Remote control may be transferred to any two of the three available input channels quickly and easily.

PHONO MOTOR

A dual speed motor insures smooth running operation, eliminating wows or waver on either 6 volt D. C. or 115 volt A. C.

An Astatic crystal pickup with a new type shock-proof arm is mounted on the phono assembly.

MODEL EX326—De luxe Mobile Amplifier complete with dual speed phono assembly and tubes.

DE LUXE UNIVERSAL SOUND SYSTEMS

MODEL EX326F MOBILE DE LUXE SYSTEM—Complete with Model EX326 Universal mobile amplifier and tubes. Two heavy duty 12′ Jensen PM dynamic speakers, each with 15′ of cable and plugs and, choice of 1—(a) Amperite BH velocity, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal microphone. Each with 12½′ microphone cable and plugs.

OUTDOOR INSTALLATIONS

MODEL EX326T DE LUXE MOBILE SYSTEM—Complete with EX326 amplifier and tubes. Two high power University 3½′ trumpets, each with 25 watt unit, choice of 1—(a) Amperite BH velocity, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal microphone. Each with 12½′ microphone cable and plugs.

MODEL SRC50—SR Remote Control, for use with any system or amplifier described above. Complete with Model RC50. 50′ cable and plugs.

MODEL AHG SPECIAL MICROPHONE HANDLE—With built-in remote control standby switch and complete with 25′ remote control cable and plugs.

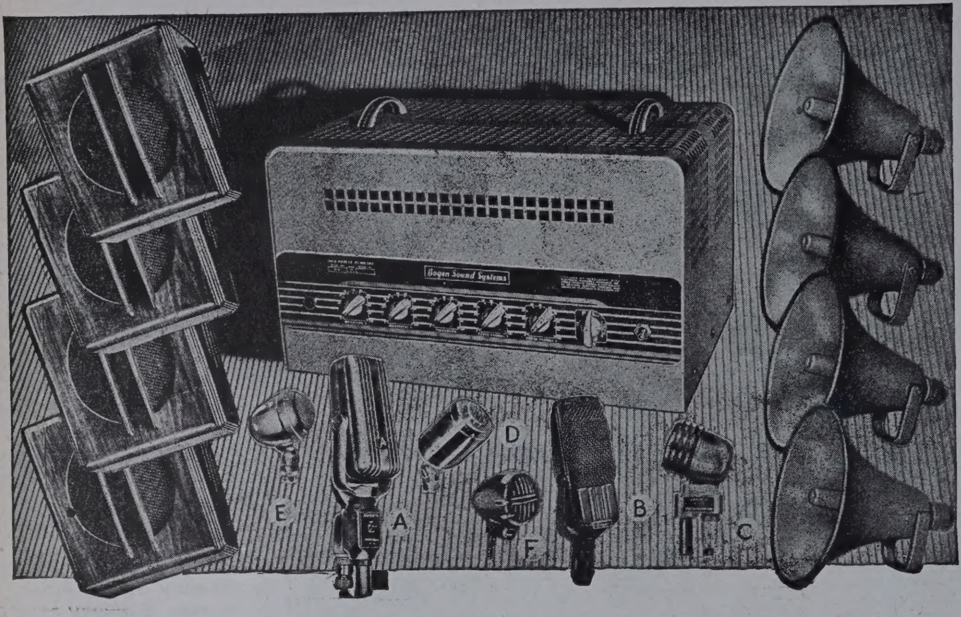
EX326 AMPLIFIER SPECIFICATIONS

OUTPUT: 32 watts.
OUTPUT IMPEDANCE: 4-8-15-250-500 ohms.
GAIN: 120 db. on microphone, 81 db. on phono.
INPUT: 3—2 microphone at 500,000 ohms, 1—phono 500,000 ohms.
FREQUENCY RESPONSE: ± 30—12000 cycles.
PROVISION FOR REMOTE CONTROL: Built in.
TUBES: 3—7B4, 2—7F7, 2—6L6G, 1—5U4G.
CURRENT DRAIN: 6 volt D. C. 23.5 amps., 117 volt A. C. 120 watts.
DIMENSIONS: 16″ long x 16″ wide x 10¼″ high.

PRICES LISTED ON PAGE C-1

BOGEN E75 *High Power Systems*

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS



70 WATTS

- ★ Less than 4% distortion
- ★ Exclusive BOGEN dual construction
- ★ Two complete 35 watt power amplifiers
- ★ Separate power supply for each amplifier
- ★ Three input channel mixing
- ★ Two microphone and Phono input
- ★ Remote Control circuits built-in for all channels
- ★ Bass and treble tone compensator.

THE NEW BOGEN E75 is a high powered amplifier retaining most of the outstanding features of the famous Bogen De Luxe EX70 Amplifier. It is designed for installations where high power and exceptional tone quality are desired—at an economical cost. Containing the exclusive Bogen Dual Amplifier circuit the E75 offers the greatest value in sound equipment at a price range previously considered low for SINGLE OUTPUT Amplifiers.

GENERAL DESCRIPTION

The E75 is a dual unit consisting of two separate 35 watt power amplifiers, each with its own Driver Stage, Power Supply, Separate Fixed Bias Rectifiers, Inverse Feedback, and Separate Master Gain Controls.

DUAL POWER AMPLIFIERS

The E75 may be used as two separate 35 watt Power amplifiers —driven by preamplifier common to both—or the outputs of both amplifiers may be paralleled to deliver 70 watts. The tapped output transformer of each amplifier is connected to marked terminal strips. An external switch may be attached to obtain instant changeover from either output, in cases of emergency.

UNIVERSAL APPLICATION

This new low cost 70 watt amplifier is highly recommended for all high power installations such as Skating rinks, Athletic fields, Stadia, Dance halls, Airports, etc.

As an emergency feature the dual amplifier design of the E75 safeguards against complete breakdown. In the event of tube burn out, condenser or transformer failure, etc., half the power (35 watts) of the E75 is still available in the amplifier section not affected.

MULTIPLE MICROPHONE AND PHONO INPUTS

Two Microphones and Phono may be mixed simultaneously thru the three High Impedance inputs. Each input has its full range volume control. A LOW IMPEDANCE MODEL EL75 is available, at a slight additional cost, for installations where it is necessary to run very long microphone lines. This provides one Low Impedance Input for Mike—one high Impedance Input for mike and one Phono Input.

MULTIPLE REMOTE CONTROL

The E75 has provision for pluging-in a Bogen multiple remote volume control. Any two input channels may be mixed and their volume regulated at any distance, from the amplifier. The Bogen Remote Control circuit is exclusive and is not subject to the Loss, Hum or Frequency discriminations that is inherent with most other remote controls.

DUAL PROTECTIVE FUSES

Two fuses are located on the rear of the chassis, one for each power amplifier. A switch is also provided to obtain voltage for the preamplifier from either power supply.

BASS AND TREBLE TONE COMPENSATOR

A complete variation of the overall tone is made possible by the Bass and treble compensator, insuring better flexibility of the tone ranges than is possible to obtain thru the use of ordinary tone controls.

Auxillary equipment to use with the E75 for indoor and outdoor installations has been carefully selected to insure the finest results for the purchaser of these splendid amplifiers.

BOGEN MODEL E75 AMPLIFIER—Complete with tubes.

LOW IMPEDANCE AMPLIFIER

MODEL EL75 AMPLIFIER — Same as above Model E75 but with first micro-input channel equipped for low impedance. Uses special high fidelity input transformer mounted right on chassis, humless, tapped at 50-200-500 ohms. Complete with tubes.

NOTE: If additional low impedance inputs are desired, refer to price sheet.

NOTE: If any systems are ordered less microphone refer to price sheet.

BOGEN E75 SYSTEMS

MODEL E75F BASIC SYSTEM — Complete E75 amplifier with tubes—Four Jensen 12" heavy duty PM12B speakers, 1—(f) Astatic JT30 Crystal Microphone. With 12½' microphone cable and plugs.

FOR INDOOR INSTALLATIONS

E75B SYSTEM — Complete system same as above, but with 4 12 inch speakers mounted in De Luxe walnut baffles Model WA12.

FOR OUTDOOR INSTALLATIONS

E75T SYSTEM — Complete E75 amplifier and tubes — four 4½' University trumpets and 25 watt units. 1—(f) Astatic JT30 Crystal Microphone. Each with 12½' microphone cable and plugs.

CHOICE OF DE LUXE MICROPHONES other than listed above: (a) Amperite BH Velocity Microphone, (c) Amperite BAH Dynamic, (d) American D8T Dynamic, (e) Astatic T3 Crystal. Each with 12½' microphone cable and plugs. For extra cost refer to price sheet.

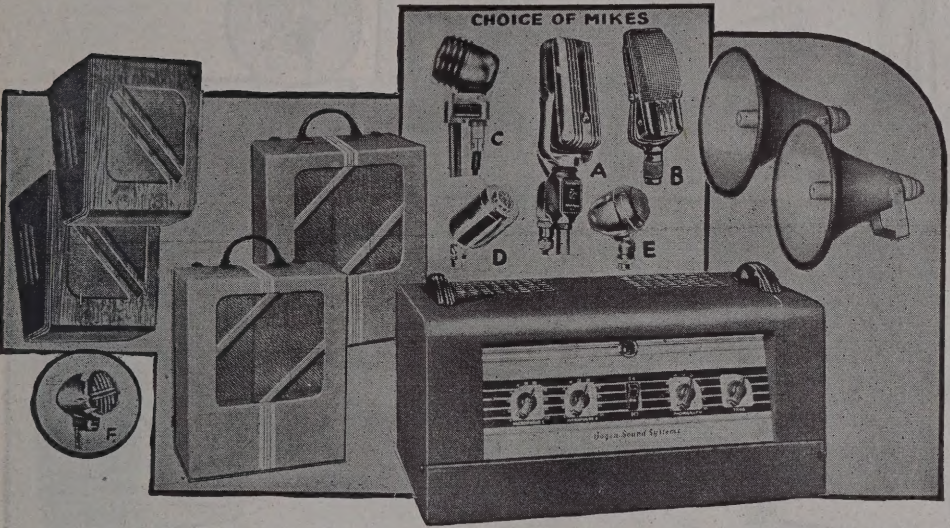
E75 AMPLIFIER SPECIFICATIONS

OUTPUT: 70 watts. (2-35 watt power amplifiers) less than 4% distortion.
OUTPUT IMPEDANCES: Each power amplifier tapped—4-8-15-500-1000 ohms, may be parallel to deliver 70 watts.
GAIN: Microphone 124 db, Phono 95 db.
INPUTS: 3-2 Microphones, 1 Phono—each 500,000 ohms. (In Model EL75, low impedance channel is tapped at 50-200-500 ohms.)
FREQUENCY RESPONSE: 30—14000 cycles—1 db.
REMOTE CONTROL PROVISION: Built-in.
TUBES: 2—7B4, 2—7F7, 2—6F6G, 4—6L6G, 2—5U4G.
CONTROLS: (6) 2 Mike, 1 Phono, 2 Master Controls, 1—Bass and Treble Compensator.
CURRENT DRAIN: 280 watts at 117 volts—50-60 cycle. AC.
DIMENSIONS: 17⅛" long x 10" high x 12½" deep.

PRICES LISTED ON PAGE C-1

BOGEN E30 "*Trail Blazer*" Sound Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS



30

Watts

- ★ Three Input Channels
- ★ Two Microphones and Phono
- ★ Electron Mixing on all channels
- ★ Full Range Controls
- ★ Treble and Bass Tone Compensator
- ★ Built-in Remote Control for all Inputs (Optional)
- ★ Beam Power 6L6 Push Pull Outputs
- ★ Illuminated Sloping Control Panel
- ★ Outdoor Weatherproof Trumpet Systems

ESTABLISHING a new standard of quality, performance and features, the new Bogen E30 "Trail Blazer" amplifier and systems, leads the way in offering finer sound equipment at lower and more popular prices.

Available in both High and Low Impedance Models, the E30 "Trail Blazer" units are seven-tube high gain amplifiers using the popular 6L6 Beam Power Tubes in the output stage to insure maximum power output and excellent tone quality. Equipped with three input channels for two microphones and one phono the E30 amplifier permits wide flexibility of operation. Each input channel is individually controlled and all channels can be mixed and used simultaneously. All inputs are high impedance on the Model E30. The Model EL30 Low Impedance amplifier is provided with a low impedance microphone input channel which is extremely valuable for installations where long microphone cables are used. In addition, the EL30 amplifier includes a second high impedance microphone input and a separate phono input thereby permitting the use of both high and low impedance microphones. An optional feature is the Remote Control provision which can be obtained built-in to any "Trail Blazer" amplifier. This feature permits complete wired or wireless remote control and mixing of any two of the available three input channels from distant points as far as 2,000' from the amplifier. For complete variation of tone, a bass and treble compensator is built-in insuring better variation of tone ranges than the ordinary tone controls commonly used. An illuminated sloping panel, handsomely etched in bright modern colors matches the smart streamline chassis design. A variable impedance output strip and two built-in speaker sockets add greater convenience for speaker connection and matching. All component parts are selected materials of the finest quality and "Trail Blazer" amplifiers are engineered to give lasting and consistent service.

MODEL E30 "TRAILBLAZER" — Amplifier and tubes.

LOW IMPEDANCE AMPLIFIER

MODEL EL30 —30-watt amplifier, same as above Model E30 "Trail Blazer" but with first microphone input channel equipped for low impedance. When ordering specify one of the following impedances: 50, 200, 500 ohms. Model EL30, complete with tubes.

BOGEN E30 "TRAIL BLAZER" SYSTEMS

MODEL E30F—Complete basic system, includes 1 Model E30 amplifier and tubes, 2—12" Jensen PM12C speakers each with 25' cable and plugs. 1—Astatic JT30 Crystal microphone, and 12½' cable and plugs.

FOR INDOOR INSTALLATIONS

MODEL E30B—Same as above, with 2—WA12 Walnut speaker baffles.

FOR PORTABLE USE

MODEL E30P—Same as E30F but with Model K30 portable carrying case for 2 speakers and amplifier.
Price ....

FOR OUTDOOR INSTALLATIONS

MODEL E30T — Complete system includes: 1—E30 amplifier and tubes, 2—Bogen-University 3½' reflexed non-resonant weatherproof trumpets each with swivel mounting brackets, 2—25-watt Bogen-University PM trumpet units (not dynamic cone speakers), 1—Astatic Crystal JT30 microphone, and 12½' of cable and plugs.

CHOICE OF MICROPHONES, other than those listed above: (a) Amperite BH velocity, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal. Each with 12½' cable and plugs. Ask for information on additional cost.

OPTIONAL FEATURE—Remote control circuit built-in for operation of all input channels, can be obtained at an additional if specified when ordering.

MODEL SRC50—SR remote control comes complete with RC50, 50' cable and plugs.
Model SRC50.

MODEL E30 "TRAILBLAZER" SPECIFICATIONS

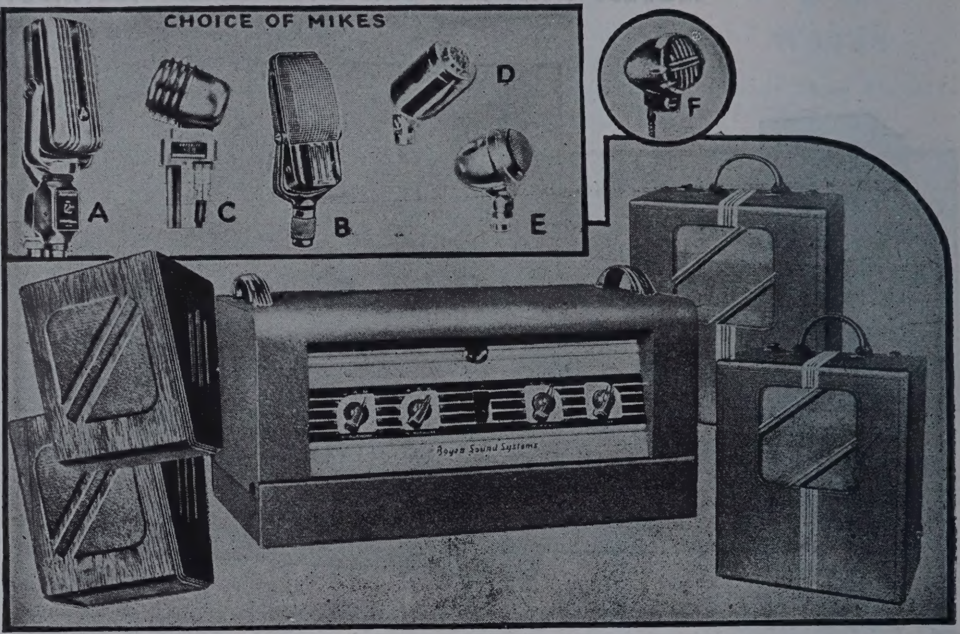
POWER OUTPUT: 30 watts undistorted (less than 5 per cent.), peak power, 40 watts.
INPUT CIRCUITS: Three input channels, two Microphone inputs, one Phono input.
INPUT IMPEDANCES: Microphone channels: High impedance 500,000 ohms. (Low impedance channels available in Model EL30 provides taps of 50, 200, 500 ohms.) Phono input, High impedance, 500,000 ohms.
OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.
OUTPUT IMPEDANCES: 4, 8, 15, 250 and 500 ohms available at both terminal strip and sockets.
GAIN: Microphone Inputs—129 db.
Phono input—89 db.
FREQUENCY RESPONSE: 40 to 12,000 cycles + or — 1.5 db.
TONE CONTROL: 1—Bass, Treble compensator.
CONTROL PANEL: Illuminated. Mounting two microphone controls, one phono control, one tone compensator control and master A.C. power switch.
REMOTE CONTROL PROVISION (OPTIONAL): Built-in, provides complete mixing and fading of any two of the three available inputs from remote point.
TUBES: 2—7B4, 1—7F7, 1—7N7, 2—6L6G, 1—5U4G.
POWER CONSUMPTION: 130 watts, 117 volts, 50-60 cycles A.C.
DIMENSIONS: 15" x 7¾" x 9¼".

BOGEN E14 "*Pacemaker*" Sound Systems

MODELS WITH LOW AND HIGH IMPEDANCE INPUTS

14 Watts

- ★ **Multi-channel Inputs**
- ★ **Two Microphones and Phono**
- ★ **Full Range Electron Mixing on All Inputs**
- ★ **6L6 Beam Power Push Pull Outputs**
- ★ **Bass and Treble Tone Compensator**
- ★ **Remote Control for All Inputs—Optional**
- ★ **Variable Impedance Speaker Matching and Tapped Outputs**
- ★ **Illuminated Sloping Controls Panel**



THE new Model E14 "Pacemaker" Sound Systems set the pace for medium powered Public Address equipment in the popular price range.

No other amplifier or system incorporates all of the features, listed above, at these low prices. Most of these features have only been available in larger so-called De Luxe units selling at much higher prices. The Bogen E14 "Pacemaker" is a 7-tube high gain amplifier providing three input channels for two microphones and phono. Each microphone input has its own separate input tube and full range individual gain control. Phono input is also provided with separate gain control and electronic mixing is effected between all three channels simultaneously. All input channels are high impedance and microphone inputs are universal for use with all current high impedance microphones, dynamic, crystal, velocity, or velotron. Low impedance inputs, an exclusive Bogen feature, are available on any or all inputs in the Model EL14 amplifier, (described below). A new and exclusive two channel remote control input for wired or wireless remote controls is an optional feature of the Model E14. Bogen remote controls permit the operator to mix and fade any two of the three input channels available from a remote point and are not to be confused with remote controls that do not provide mixing or multi-channel operation. With the exclusive Bogen Remote Control the operator can control either two microphones or one microphone and phono at will. A bass and treble tone compensator is another De Luxe feature built in the Model E14 "Pacemaker." This is not an ordinary tone control but permits accentuation of the bass or treble ranges at will. A pair of 6L6 beam power output tubes in push-pull assure ample power with excellent quality. A beautifully etched, sloping control panel illuminated for greater visibility enhances the appearance of the new Bogen E14 "Pacemaker." For ease of connection lock type shielded connectors are provided for the microphone inputs, terminal strips for phono inputs and a new variable output terminal strip tapped at 2, 4, 9, 250, and 500 ohms insures quick and easy speaker matching. For further convenience two speaker sockets are built-in. The new E14 "Pacemaker" establishes a new standard in the medium priced field.

MODEL E 14—Amplifier and Tubes.

LOW IMPEDANCE AMPLIFIER

MODEL EL14—14 watt amplifier same as Model E14 "Pacemaker" above with first microphone input channel equipped for low impedance operation—tapped at 50, 200 and 500 ohms. Specify tap setting desired when ordering. MODEL EL14, complete with tubes.

BOGEN MODEL E14 SYSTEMS

MODEL E14F—Complete basic systtm consists of: 1—Bogen Model E14 "Pacemaker" amplifier, 1—Kit of matched tubes, 2—12" Jensen PM12C Dynamic speakers each with 25' of speaker cable and plug. Astatic JT30 Crystal microphone and 12½' of microphone cable fitted with lock type connectors.

FOR INDOOR INSTALLATIONS

MODEL E14B—Complete system. Same as E14F but with 2—WA12 Walnut speaker baffles.

FOR PORTABLE USE

MODEL E14P—Complete system. Same as E14F but with Model K14 Portable Carrying Cases for two speakers and amplifier.

CHOICE OF DE LUXE MICROPHONES other than listed above (a) Amperite BH velocity, (c) Amperite BAH dynamic, (d) American D8T dynamic, (e) Astatic T3 crystal microphone. Each with 12½' cable and plugs. Ask for information on additional cost.

OPTIONAL FEATURE

Remote control circuit built-in for operation of all input channels can be obtained at additional cost if specified when ordering.

MODEL SRC50 —SR remote control complete with RC50, 50' cable and plugs.

MODEL E14 AMPLIFIER SPECIFICATIONS

POWER OUTPUT: 14 watts undistorted (less than 5 per cent.), peak power, 25 watts.
INPUT CIRCUITS: Three input channels, two Microphone inputs, one Phono input.
INPUT IMPEDANCES: Microphone channels—High impedance 500,000 ohms. (Low impedance channels available in Model EL14 provides taps of 50, 200, 500 ohms.) Phono input, High impedance, 500,000 ohms.
OUTPUT CIRCUITS: Tapped terminal strip and two plug-in speaker sockets.
OUTPUT IMPEDANCES: 4, 8, 15, 250 and 500 ohms available at both terminal strip and sockets.
GAIN: Microphone Inputs—125 db.
Phono Inputs—85 db.
FREQUENCY RESPONSE: 40 to 12,000 cycles + or — 1.5 db.
TONE CONTROL: 1—Bass, Treble compensator.
CONTROL PANEL: Illuminated. Mounting two microphone controls, one phono control, one tone compensator control and master A.C. power switch.
REMOTE CONTROL PROVISION (OPTIONAL): Built-in, provides complete mixing and fading of any two of the three available inputs from remote point.
TUBES: 2—7B4, 1—7F7, 1—7N7, 2—6L6G, 1—5Y4G.
POWER CONSUMPTION: 90 watts, 117 volts, 50-60 cycles A.C.
DIMENSIONS: 14" x 7¾" x 8".

BOGEN E1620 "UNIVERSAL" MOBILE SYSTEM

20 WATTS

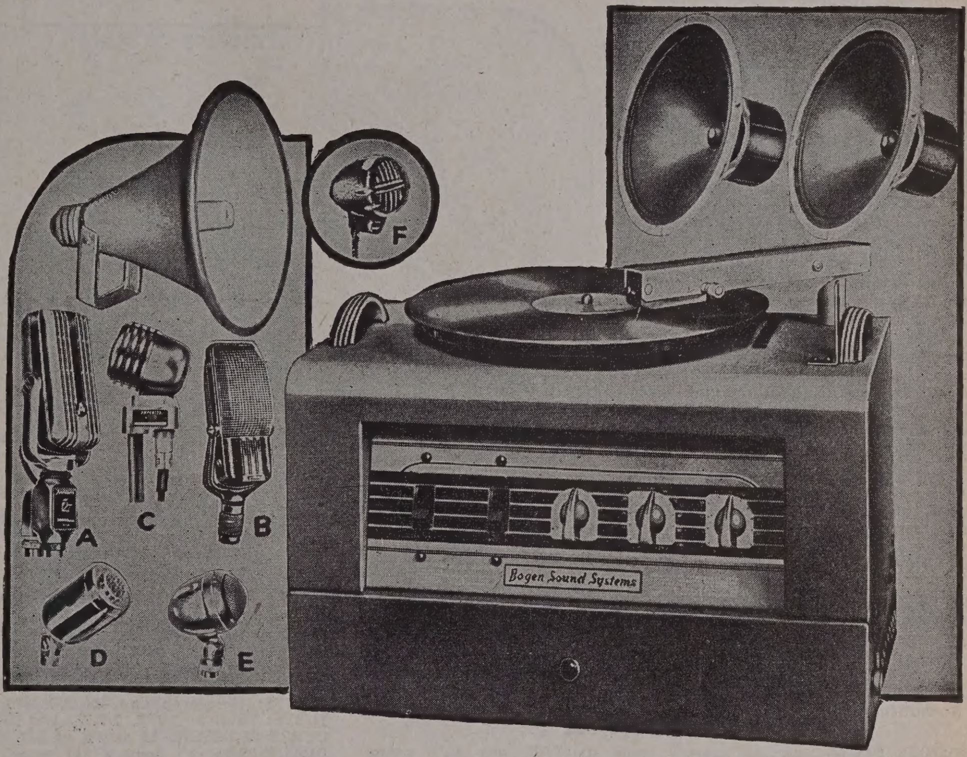
THE Improved new Bogen E1620 moble system answers a long felt need for an economical amplifier that may be easily converted to operation from six volt storage battery or 115 volt A.C. Changeover from 6 volt battery to 110 volt A. C. is automatic.

The E1620 amplifier comprises a single self-contained amplifier unit with its own power supply and phono assembly. Microphone and phono inputs may be mixed or faded thru two independent volume or gain controls. A Bass and Treble compensator control is built-in. The E-1620 features a sloping recessed four color panel.

The E1620 is furnished with a phono assembly comprising a dual speed motor, powerized by a built in supply to eliminate any speed variation or waver on 6 V. D. C. and 110 V. A. C. The phono assembly is complete with Astatic crystal pickup.

Tapped output transformer—Speaker plug-in connections—Smart styling and fine performance makes this an amplifier that lends itself to a wide variety of uses.

MODEL E1620 AMPLIFIER—complete with phono assembly and tubes.



MODEL E1620F SYSTEM—Complete with E1620 amplifier and tubes. Two PM12C Jensen 12 inch dynamic speakers, Astatic JT30 crystal microphone with 12½' microphone cable and 15' speaker cable and plugs on each speaker.

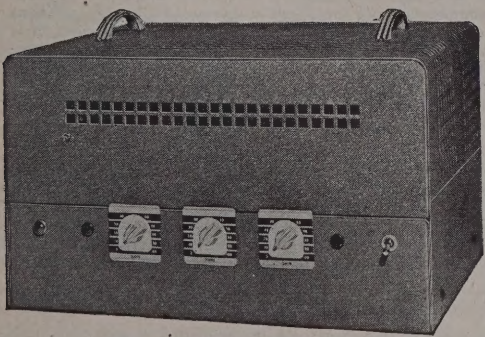
MODEL E1620T SYSTEM—Complete with Model E1620 amplifier and tubes. One University 3½" high power trumpet and 25 watt unit. Astatic JT30 Crystal microphone with 12½' microphone cable and plugs.

NOTE: Model E1620 Systems are available with choice of De Luxe Microphone at an extra cost: (a) Amperite BH Velocity, (b) Amperite BAH Dynamic, (c) American D8T Dynamic, (d) Astatic T8 Crystal microphone. Each with 12½' cable and plugs.

E1620 AMPLIFIER SPECIFICATIONS

OUTPUT: 20 watts undistorted (less than 5%) peak—25 watts.
OUTPUT IMPEDANCES: 4-8-15-250-500 ohms.
GAIN: Microphone 116 db. Phono 69 db.
INPUT: Two—1 microphone—500,000 ohms. 1 phono—500,000 ohms.
FREQUENCY RESPONSE: 30—12,000 cycles ± 2 db.
TUBES: 1-6SJ7, 1-6SL7GT, 2-6L6G, 2-6X5GT.
CURRENT DRAIN: 6 volt D. C.—13.75 amps. 117 V. A. C.—95 watts.
DIMENSIONS: 15" long x 9¼" deep x 8½" high.

BOGEN E80 DUAL CHANNEL 80 WATT BOOSTER



BOGEN 80 WATT ZERO LEVEL BOOSTER AMPLIFIER

The new Bogen Model E80 is a dual channel booster amplifier, ideally designed for use in large P.A. and centralized sound systems, where an amplifier which can be driven to full output with zero level input is required.

The dual channel construction of the Model E80 provides maximum protection against breakdown, for should one channel break down, the other will continue to supply its own bank of speakers. Each channel has an output of 40 watts at less than 2.5% distortion, and the two separate output channels can be paralleled to deliver 80 watts of audio power. The Bogen E80 requires a signal of only .5 volts to drive it to full output, so that it can be fed by any zero level line or output, the high impedance output of a tuner or a high impedance crystal pickup, and a number of boosters can be added to an existing system without increasing the size of the driver.

E80 SPECIFICATIONS

GAIN: Overall 87.5 db.
FREQUENCY RESPONSE: ± 2 db 30 — 14,000 cycles.
POWER CONSUMPTION: 250 watts at 117 V. A. C., 50-60 cycles.
FUNDAMENTAL HUM: —69 db.
TUBES: 1-7B4, 1-7F7, 2-6F6G, 4-6L6G, 2-5U4G.
INPUT: High Impedance 1.0 Megohm.
OUTPUT: 80 watts — less than 5% distortion.
OUTPUT IMPEDANCES: Each channel has its own output terminal strip tapped at 4, 8, 15, 500 and 1000 ohms.
CONTROLS: 3 — 2 volume (one for each channel)—one tone control.
DIMENSIONS: 17⅛" long x 10" high x 12½" deep.

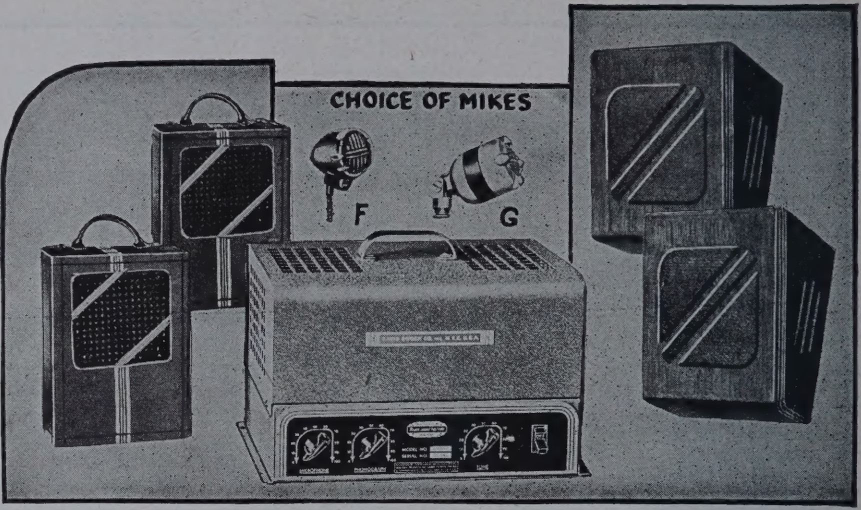
BOGEN E10 *De Luxe Economy* System

10 Watts

THE improved Bogen EP10 system meets the demand for medium powered, two speaker sound systems at an economical price. Many features of the more expensive de luxe systems are incorporated in the EP10.

The amplifier is equipped with separate input channels for one microphone and one phono. These two channels each have their own full range gain control. Electronic mixing permits fading and mixing between both channels and also their use simultaneously. A high frequency tone control is provided. All controls and A. C. switch are mounted on an especially styled and colorful control panel.

The output circuit comprises a pair of 7C5 beam power tubes in push-pull amplification assuring excellent tone quality and volume. The output transformer is tapped at 4-8-15-250-500 ohms and connected to a speaker terminal strip. In addition two speaker sockets are built in and provide quick and easy means of connecting speakers.



The E10 amplifier may be used in many types of installations for hard of hearing aids, small paging systems, etc. The unit is ideal for speech modulation and may be used as a driver for medium powered transmitters.

The components used in making up the EP10 sound systems assure fidelity of reproduction, and dependable long life for continuous operation.

MODEL E10F "Economy" system comprises 1—E10 amplifier with tubes: 2—10" PM dynamic speakers. Each with 25' cable and plugs, and one Astatic Crystal microphone Model JT30 and 12½' cable.

FOR INDOOR INSTALLATIONS

MODEL E10B—Complete system same as above but with two WA10 Walnut Baffles.

FOR PORTABLE USE

MODEL E10P—Complete system same as E10F but with portable two section leatherette covered speaker baffle Model 10A for carrying amplifier and mounting the 2 speakers.

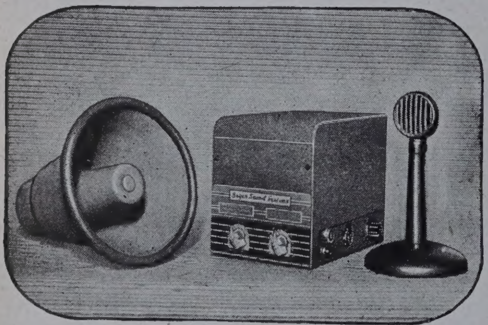
MODEL E10—Amplifier only, complete with tubes.

NOTE: If system is ordered less microphone refer to price sheet. If system is ordered with (G) American D4T Dynamic, for extra cost refer to price sheet.

E10 AMPLIFIER SPECIFICATIONS

OUTPUT: 10 watts—less than 5% distortion.
OUTPUT IMPEDANCES: 4-8-15-250-500 ohms.
FREQUENCY RESPONSE: 65—9000 ± 2 db.
CONTROLS: Three—one microphone, one phono, one tone.
GAIN: Microphone 114 db., phono 75 db..
INPUTS: 1—microphone 500,000 ohm, 1—phono 500,000 ohm.
TUBES: Total 5; 2-7F7, 2-7C5, 1-5Y4GT.
CURRENT DRAIN: 88 watts at 117 v. A. C.
DIMENSIONS: 7" deep x 11" wide x 7-5/16" high.

BOGEN E66 *Universal* MOBILE AMPLIFIER



MODEL E66F—System, complete, includes: 1-E66 Amplifier; 1-complete set of matched tubes; 1 Special Bogen University trumpet; 1-Astatic Y30 Crystal microphone with removable handle, removable base for desk stand operation and 7½' of cable.

MODEL MB—Special mobile speaker bracket.

MODEL E66—Amplifier only with Tubes.

MODEL E66 SPECIFICATIONS

POWER OUTPUT: 8 watts (or + 31 db).
HUM: AC: — 45 db; DC: — 62 db.
INPUT CIRCUITS: 1 microphone input—Lock Type Screw on Connector; 1 Jack for Phonograph Input.
INPUT IMPEDANCE: High Impedance, (500,000 ohms) for Microphone and Phonograph.
OUTPUT IMPEDANCE: 4, 8, 15 ohms available at 5-prong speaker socket.
POWER CONSUMPTION: 6.3 volt storage battery: 7 amperes; 117 volts AC: 50 watts.
GAIN: Overall gain: microphone input: 110 db; phonograph input: 75 db.
TUBE COMPLEMENT: 1—7F7, 2—6V6, 1—7Z4.
DIMENSIONS: 5¾" wide x 7⅜" deep x 6¾" high.

★ **Extremely Compact**

★ **Built to Police Specifications**

★ **Mounts Under Car Dashboard**

★ **6 Volt DC and 110 Volt AC Operation**

★ **Output Equals Ordinary 15-18 Watt Amplifiers**

The Bogen Model E66 is a radical departure in mobile amplifier construction, and has been designed in accordance with the specifications of Police Departments in some of the country's largest cities. Compact, inexpensive—yet highly efficient, it is intended for use in Police, safety, fire and emergency cars, and also as a public address system for outdoor gatherings. The Bogen Model E66 can be used on either a 6 volt storage battery or a 117 volts AC and the current drain is exceptionally low. It is modern in design, extremely simple to install and mounts directly under the dash-board. It takes as little space in a car and is as simple to operate as a radio or small heater.

The speaker, developed as a companion unit for the Model E66 is a special Bogen University reflex trumpet of the folded exponential type. It may be mounted easily in the motor compartment under the engine hood—or on a fender alongside the headlight. This speaker is so amazingly efficient that with it, the Bogen Model E66 delivers the equivalent results of a 15 watt system. 100% waterproof and of all metal construction, this specially designed speaker will stand considerable abuse and is a revelation in high efficiency reproduction. A special bracket is available for speaker mounting.

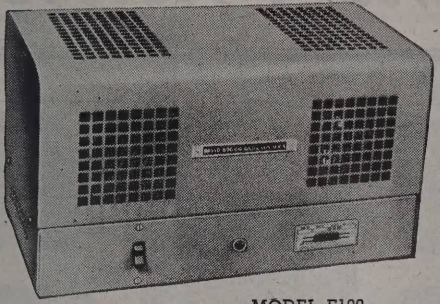
The microphone, a streamlined Astatic crystal with a handle and 7½ feet of cable, can be used by the driver without interfering with his normal driving operations.

The Amplifier utilizes push pull output and incorporates a stand-by switch which reduces the current drain and keeps the Amplifier ready at all times for immediate use. A phonograph connection is provided and the unit is constructed so that tubes or vibrator may be removed without disturbing the amplifier mounting.

The usefulness of Police Cars is immeasurably increased when the compact, mobile E66 is added to the usual two way radio communication, making each police car an extremely effective traffic safety car.

BOGEN Booster and Pre-Amplifiers • Phono-Players

100 WATT BOOSTER AMPLIFIER



MODEL E100

The Bogen 100 Watt Booster Model E100 lends itself ideally to large installations such as stadiums, memorial parks, auditoriums, ball parks, etc. Embodies the latest circuit developments. Four 6L6 tubes arranged in a special push-pull parallel circuit deliver 100 watts of undistorted power output. All transformers are generously designed to give the excellent regulation so necessary in this type of circuit. Despite the enormous power output, surprisingly little driving power is necessary—only 2 watts. Thus any existing small system may easily be converted into a high powered installation of the largest type.

Input 15, 50, 250 and 500 ohms; output 500, 250, 166, 125, 100, 84 and 72 ohms. Separate secondary for voice coil with taps at 15, 9, 4 and 2 ohms to enable the matching of any combination of speakers or lines. Connections on terminal strips.

MODEL E100 SPECIFICATIONS—(Complete with tubes).

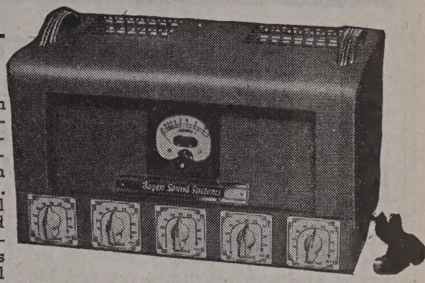
GAIN: Overall 17 db. FREQUENCY RESPONSE: 30 to 12,000 cycles. CURRENT DRAIN: 300 watts, 110 volts, 50-60 cycles. DIMENSIONS: 9" deep, 16½" wide, 9½" high. OUTPUT: 100 watts—less than 5 per cent Harmonic Content. TUBE COMPLEMENT: 4-6L6G, 3-5U4G. CONTROLS: 1 Master Power Switch.

4 CHANNEL MIXER-PREAMPLIFIERS

BUILT IN REMOTE CONTROL PROVISION FOR ALL CHANNELS ON EACH MODEL

MODEL HH

FOR ALL NORMAL P. A. APPLICATIONS



MODEL HH

This four position mixer and pre-amplifier will mix four high-impedance microphones into any high impedance amplifier. Each input channel has its own tube and gain control. A master volume control is provided for overall gain. The unit includes its own built in A. C. power supply. Will answer to a wide variety of uses such as mixing and fading microphones to recording equipment, also to increase the input channels of existing amplifiers. Compact and smartly styled.

SPECIFICATIONS: Input impedance 500,000 ohms on all inputs. Output impedance 500,000 ohms. For 110 volts A. C. operation. TUBES: 5-7B4, 1-7Z4. SIZE: 14-1/16" x 8" x 7⅞" high. MODEL HH complete with tubes without meter. Gain 60 D. B.

MODEL HLO FOR REMOTE LINE APPLICATIONS

Similar to Model HH, with four high impedance inputs, but equipped with a zero level output amplifier built-in with output transformer terminating in 50-125-200-500 ohms taps. A DB meter is provided on control panel to indicate output level and master gain control is built in. Ideal for use as a remote Pre-Amp on telephone lines or as a remote pre-amp operated for P. A. work at a distance from the main amplifiers. All input impedances—500,000 ohms. For 110 volts A. C. operation. SIZE: 14-1/16" long x 8" deep x 7⅞" high. TUBE KIT: 5-7B4, 1-7A4, 1-7Z4. MODEL HLO with tubes and D. B. meter. Overall gain 76 D. B.

MODEL LLO FOR PROFESSIONAL BROADCAST USE

Built to conform to strictest requirements of broadcast equipment. Embodies four low impedance input channels, each with separate gain control. Each input is tapped at 50-125-200-500 ohms. A master gain control is included along with a built in DB level meter. Low impedance output of 50-125-200-500 ohms is available at zero level. Built in A. C. power supply is absolutely humless. Precision equipment combined with smart styling. SIZE: 14-1/16" long x 8" deep x 7⅞" high. TUBES USED: 5-7B4, 1-7A4, 1-7Z4.

MODEL LLO with tubes and meter. Overall gain 76 D. B.

(NOTE: MODELS HH, HLO & LLO DISCONTINUED FOR DURATION.)

PHONOGRAPHS

PORTABLE MODEL 8007

MODEL 8007

Complete with Green Flyer governor controlled motor, model AB8 crystal pickup, and 10" turntable. Self-contained in well constructed carrying case reinforced and covered with durable fray leatherette. Dimensions 15¾" x 13" x 7¼". For 110 volts, 60 cycles.

De-Luxe PORTABLE MODEL 8016 FOR 16" RECORDINGS

MODEL 8016

The DeLuxe Model 8016 supplies the demand for a unit capable of playing 16" professional transcription recordings as well as the Standard 10" and 12" records. Contains a heavy duty Green Flyer motor, dual speed for 78 and 33-1/3 R.P.M. Recordings. Equipped with a crystal pickup and special 12" arm. Complete with 12" turntable. Entire unit mounted in a fine leatherette carrying case strongly reinforced and finished with leather corners and gunmetal hardware. For 110 volts, 60 cycles. Dimensions: 21¾" x 17" x 7".

MODEL 8016L

Similar to Model 8016 but equipped with the new Model HP16 low pressure pickup with permanent sapphire stylus. Especially recommended for professional use.

MODEL PT16 TRANSCRIPTION PLAYER

This general purpose phono player with amplifier is designed to handle 16" transcription records along with the standard variety. The 12" turntable is driven by a special heavy duty General Industries dual speed motor for 33-1/3 and 78 RPM. Astatic Crystal pickup feeds the built in 6 watt high quality amplifier that is equipped with master gain and tone controls. 10" PM dynamic speaker mounted in cover of carrying case. Cover is removable and may be used at a distance from the main unit. Ideal as a portable record player to handle any size recordings. Operation is from 110 volt A. C. only.

DIMENSIONS: 23½" x 17¼" x 10¾". Complete with tubes.

TUBE COMPLEMENT: 1-7F7, 2-7C5, 1-7Z4.

MODEL PT16

MODEL PT16AD PORTABLE PHONO AMPLIFIER

Same as Model PT16 except this model operates from either 110 volt A. C. or D. C. current and the output of the amplifier is 4 watts. Complete with tubes.
TUBES USED: 1-7F7, 2-25L6G, 1-25Z6G.
NOTE: Either of above models are available with a microphone input at slight extra cost. They can also be obtained equipped with new Low Pressure Astatic HP-16 Professional Pickup with Sapphire Stylus at slight extra cost. Specify when ordering extras. **(MODEL PT16AD DISCONTINUED FOR DURATION.)**

BOGEN *Communo-Phones*

BOGEN TYPE "A" SYSTEMS

MODELS 4A, 12A, 219A

Master to Remote Station Communication

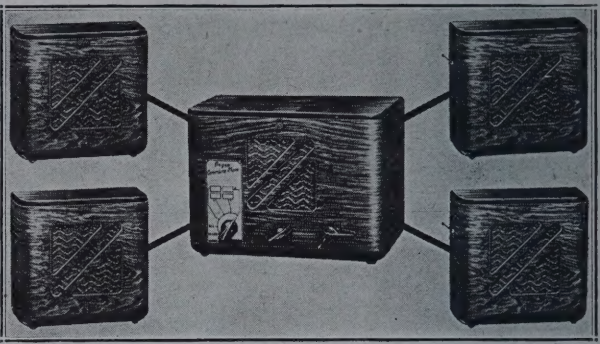
BOGEN Type "A" Communo-Phones provide instant communication between distant points. Systems consist of one Master and additional remote stations. Up to four remote stations may be added on the Model 4A, up to eleven remote stations on the Model 12A, and up to eighteen stations on the Model 219A. A Master can select any one remote station to speak with, or—with a 4A Master—all remote stations at once, thereby instantly locating any person in your organization. Persons called reply through the remote station nearest to them—they need not be close to the station—replies made from 20 to 30 feet away can be received by the Master station clearly and distinctly.

The Master station can be set to permit any remote station to call it, or remote stations can be obtained with call-in switches, either built-in or external, to permit remote stations to initiate a call to the Master at any itme.

Masters are equipped with an "on-off" switch, "press-to-talk" switch, and station selector. On the Model 4A a special arrangement permits closing out background noise levels from remote stations by a "silent" position on the Master station selector. A volume control on the Master permits adjustment of volume to any desired listening level.

Masters are finished in highly polished walnut bakelite to harmonize with any office surroundings.

TUBES USED: 1—12SJ7; 1—50L6GT; 1—35Z5GT



Model 4A—One Master only, for up to 4 stations, complete with tubes.
Model 4AE—Same as 4A, but equipped with earphone for privacy of conversation.
Model AR—Remote station only, for all type "A" Masters.
Model RS—Same as AR, but with built-in call switch.

MODELS 12A and 219A

These models are for larger installations than the Model 4A. They are similar in all features except that they do not include the ALL STATION call position or the SILENT position.

Model 12A—One Master only, for up to 11 stations.
Model 12AE—Same as 12A, but with earphone for privacy of conversation.
Model 219A—One Master only, for up to 18 stations.
Model 219AE—Same as 219A, but with earphone.
NOTE:—Type "A" Systems require a 2-conductor cable between Master and each Remote station.

Systems using Remote stations with call switch require a 3-conductor cable between Master and each Remote station.

BOGEN TYPE "C" SYSTEMS

MULTIPLE MASTER SYSTEMS

(Model 6C Equipped with Paging Switch)

BOGEN Type "C" Intercommunication Systems have been designed to meet the requirements of Multiple Station installations where a number of executive stations are desired. Systems for up to six, twelve, or nineteen stations are available. Each station is a Master and can call any other Master independently. Two Masters can converse with each other at will and several pairs of Masters can converse at once without interference.

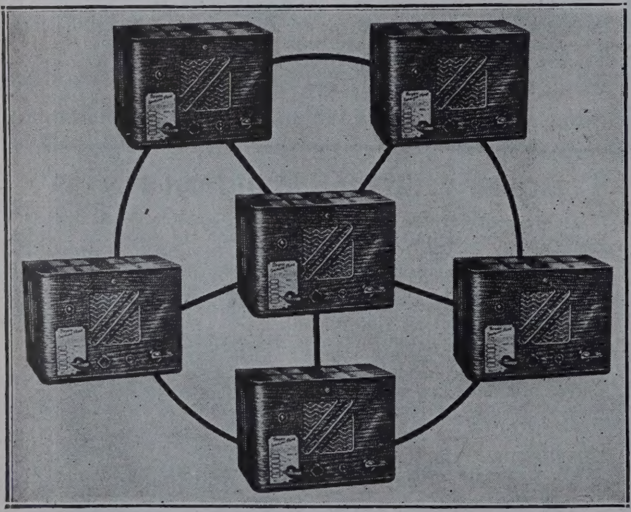
An extremely desirable feature of the Model 6C is the All-Station switch which permits any station to call or page all other stations in the system at one time. This feature is not available on Models 12C or 219C.

If private conversations are desired, earphone Masters are available for one or all the Masters. This type of arrangement works like an inter-office telephone system. An extremely important feature is that it is not necessary to use the "Press-to-Talk" switch on any Master equipped with earphone, when earphone is in use.

Each station is housed in a beautiful walnut finished bakelite cabinet and equipped with station selector, master volume control, talk-listen switch, on-off switch and pilot light that shows when system is on or off.

TUBES USED: 1—12SJ7, 1—50L6GT, 1—35Z5GT

CABLE NOTE:—Installation of Type "C" Systems requires a cable with one more conductor than the number of stations to be installed (i.e.) five stations require a six conductor cable, etc.



Model 6C—One Master only, for up to 6 stations, complete with tubes.
Model 6CE—Same as 6C, except with earphone for privacy of conversation.
Model 12C—One Master only, for up to 12 stations.
Model 12CE—Same as 12C, but with earphone.
Model 219C—One Master only, for up to 19 stations.
Model 219CE—Same as 219C, but with earphone.

FOR FURTHER INFORMATION AND LARGER SYSTEMS
ASK FOR COMPLETE INTERCOMMUNICATION AND PAGING SYSTEM CATALOG

BELL SOUND EQUIPMENT

See Following Pages for Illustrations

How to Use This List—See illustrations and specifications, then refer to list by Page Number for prices—ORDER BY CATALOG NUMBER AND AVOID MISTAKES.

NOTE:

Prices quoted do not include Federal Taxes present or future, if applicable. All prices subject to change without notice.

Bell amplifiers and intercommunication systems licensed under U. S. patents of American Telephone and Telegraph Companies and Western Electric Company, Inc.

NOTE: War-time speaker shortages necessitate periodic substitutions of comparative equipment at slight price adjustment.

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Tubes Not Included, Order by Catalog Number Separately

Model	Order Cat. No.	Item	List Price
610	**U-5000**	10 Watt Amplifier, less tubes	**$46.75**
610 Tube Kit	**U-1305**	Matched Tubes for Model 610	**7.05**
615	**U-5001**	15 Watt Amplifier, less tubes	**59.00**
615 Tube Kit	**U-1306**	Matched Tubes for Model 615	**8.10**
625	**U-5002**	25 Watt Amplifier, less tubes	**74.25**
625 Tube Kit	**U-1307**	Matched Tubes for Model 625	**10.30**
630	**U-5003**	30 Watt Amplifier, less tubes	**93.50**
630 Tube Kit	**U-1308**	Matched Tubes for Model 630	**14.30**

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Tubes Not Included, Order by Catalog Number Separately

Model	Order Cat. No.	Item	List Price
650	**U-5004**	50 Watt Amplifier, less tubes	**135.00**
650 Tube Kit	**U-1310**	Matched Tubes for Model 650	**14.90**
700	**U-5005**	100 Watt Amplifier, less tubes	**210.00**
700 Tube Kit	**U-1313**	Matched Tubes for Model 700	**27.15**
602	**U-5006**	Two-channel Preamplifier, less tubes	**51.50**
602 Tube Kit	**U-1300**	Matched Tubes for Model 602	**4.50**
604	**U-5007**	Four-channel Preamplifier, less tubes	**85.00**
604 Tube Kit	**U-1301**	Matched Tubes for Model 604	**6.85**
V-15	**U-5009**	15 Watt Microphone and Phono Amplifier, less tubes	**49.50**
V-15 Tube Kit	**U-1303**	Matched Tubes for Model V-15	**9.50**

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Tubes Not Included, Order by Catalog Number Separately

Model	Order Cat. No.	Item	List Price
606	**U-5100**	6-8 Watt Ballyhoo System, less tubes	**47.95**
606 Tube Kit	**U-1302**	Matched Tubes for Model 606	**4.55**
PA610E	**U-5102**	10-14 Watt Economy Portable System, less tubes	**115.25**
PA610	**U-5103**	10-14 Watt Standard Portable System, less tubes	**123.75**
PA610D	**U-5104**	10-14 Watt Deluxe Portable System, less tubes	**134.50**
PX610D	**U-5105**	10-14 Watt Deluxe Permanent System, less tubes	**137.00**
610 Series Tube Kits	**U-1305**	Matched Tubes for all 610 Systems	**7.05**
57 Mike	**U-1004**	"Uniplex" Crystal High Impedance Microphone	**35.75**
59	**U-1006**	Crystal High Impedance Microphone	**25.00**
60	**U-1008**	Rocket Crystal High Impedance Microphone	**27.50**
62	**U-1010**	Dynamic High Impedance Microphone	**25.00**
63	**U-1012**	Dynamic High Impedance Microphone	**27.50**
15 Case	**U-1024**	Speaker and Amplifier Carrying Case (three piece)	**21.00**

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Tubes Not Included, Order by Catalog Number Separately

Model	Order Cat. No.	Item	List Price
PA615E	**U-5110**	15 Watt Economy Portable System, less tubes	**127.50**
PA615	**U-5111**	15 Watt Standard Portable System, less tubes	**136.00**
PA615D	**U-5112**	15 Watt Deluxe Portable System, less tubes	**146.75**
615 Series Tube Kits	**U-1306**	Matched Tubes for all 615 Systems	**8.10**
PA625E	**U-5120**	25 Watt Economy Portable System, less tubes	**169.75**
PA625	**U-5121**	25 Watt Standard Portable System, less tubes	**178.25**

P R I C E S H E E T
For
BELL SOUND SYSTEMS, Inc.

PAGE C-18 (Cont'd)

Model	Order Cat. No.	Item	List Price
PX625D	U-5122	25 Watt Deluxe Permanent System, less tubes	$185.70
625 Series Tube Kits	U-1307	Matched Tubes for all 625 Systems	10.30
PA630	U-5130	30 Watt Standard Portable System, less tubes	214.70
PA630D	U-5131	30 Watt Deluxe Portable System, less tubes	225.45
PX630D	U-5132	30 Watt Deluxe Permanent System, less tubes	221.90
630 Series Tube Kits	U-1308	Matched Tubes for all 630 Systems	14.30
14 Case	U-1023	Amplifier Carry Case (two piece)	16.50
95 Case	U-1038	Speaker Carrying Case (two piece)	17.50

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Tubes Not Included, Order by Catalog Number Separately

Model	Order Cat. No.	Item	List Price
PA650	U-5140	50 Watt Standard Portable System, less tubes	256.00
PA650D	U-5141	50 Watt Deluxe Portable System, less tubes	266.75
PX650D	U-5142	50 Watt Deluxe Permanent System, less tubes	263.40
650 Series Tube Kits	U-1310	Matched Tubes for all 650 Systems	14.90
MN-15	U-5050	15 Watt Complete Mobile System, less tubes	177.80
MN-15 Tube Kit	U-1304	Matched Tubes for Model MN-15	8.35
M-30	U-5054	30 Watt Complete Mobile System, less tubes	249.50
M-30 Tube Kit	U-1309	Matched Tubes for Model M-30	11.50
59HS Mike	U-1007	Crystal Hand Set Microphone	26.00
61A Mike	U-1009	Dynamic Hand Set Microphone	25.00

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Tubes Not Included, Order by Catalog Number Separately

Model	Order Cat. No.	Item	List Price
676	U-5176	15 Watt Portable Phono-P.A. System, less tubes	157.85
676 Tube Kit	U-1311	Matched Tubes for Model 676	8.10
677	U-5177	10 Watt Portable Phono-P.A. System, less tubes	119.50
677 Tube Kit	U-1312	Matched Tubes for Model 677	6.60
601	U-5275	Zephyr School Sound System, less tubes	365.00
601 Tube Kit	U-1314	Matched Tubes for Model 601	23.40

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BELFONES—Tubes ARE Included in Price

Model	Order Cat. No.	Item	List Price
350	U-5220	10 Station Master (Central) Belfone	43.95
351M	U-5222	10 Station Master Belfone	43.95
352	U-5224	10 Station Master (Central) Belfone (Hi-power AC)	54.95
352M	U-5226	10 Station Master Belfone (Hi-power AC)	54.95
356	U-5230	Desk Type Belfone Sub-station	16.00
357	U-5231	Wall Type Belfone Sub-station	14.00
366	U-5205	Six Station Master (Central) Belfone	36.85
366M	U-5207	Seven Station Master Belfone	36.85
367	U-5210	Desk Type Belfone Sub-station	10.45
367S	U-5211	Desk Type Belfone Sub-station, less Call Switch	8.80

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BELFONES—Tubes ARE Included in Price

Model	Order Cat. No.	Item	List Price
374SS	U-5240	12 Station Deluxe Secretive Master Belfone, including Tubes	115.00

HEAVY DUTY EQUIPMENT

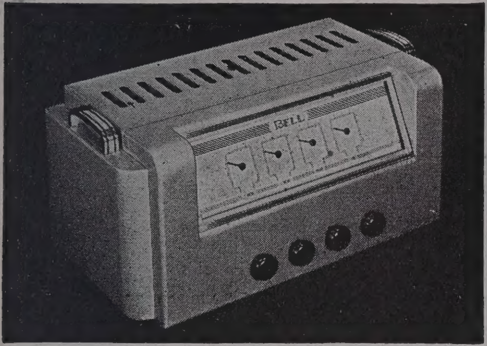
. . . Write for Prices . . .

Model	Order Cat. No.	Item
2B (Cabinet Type)	U-2000	Cabinet Heavy Duty Control Amplifier, with tubes
2B (Rack Type)	U-2001	Rack-Panel Heavy Duty Control Amplifier, with tubes
50B Cabinet Type)	U-2050	Cabinet 50 Watt Heavy Duty Speaker Amplifier, with tubes
50B (Rack Type)	U-2051	Rack-Panel 50 Watt Heavy Duty Speaker Amplifier, with tubes
100B (Cabinet Type)	U-2100	Cabinet 100 Watt Heavy Duty Speaker Amplifier, with Tubes
100B (Rack Type)	U-2101	Rack-Panel 100 Watt Heavy Duty Speaker Amplifier, with tubes
J-25	U-1088	Reflex Trumpet
J-26	U-1089	Radial Reflex Trumpet
90WS	U-1035	Complete Walnut Wall-Speaker
62G	U-1153	Microphone Unit

AMPLIFIERS IN ALL POPULAR WATTAGES
By
BELL SOUND SYSTEMS, Inc.

15-Watt Amplifier
Model 615

- **Three Input Channels**
- **Illuminated Control Panel**
- **Streamlined Two-Tone Case**
- **Beam Power Output Tubes**
- **Exceptional Tone Quality**



This amplifier is as fine in performance as its beautiful, modern design suggests. A new peak in appearance and tone! Its illuminated, full-vision pointer dials are set on an incline, at the proper eye level, in a beautiful, two-tone gray cabinet trimmed in deep red. With push-pull beam power output tubes utilizing inverse feedback and an expertly engineered circuit, it is literally a packaged miracle in performance and ease of operation.

The 15-watt output has less than 5% distortion. Peak output is 18 watts. Two individually controlled microphone channels and one phono channel can be mixed in any combination of volume. Circuit and tubes are easily accessible through the one-piece removable top-and-back panel.

MODEL 615 SPECIFICATIONS

POWER OUTPUT: 15 watts at less than 5% distortion. 18 watts peak.

GAIN: Microphone channels 124 db. Phono 85 db.

FREQUENCY RESPONSE: 35 to 10,000 cycles—within plus or minus 1.5 db.

INPUT IMPEDANCE: Two microphone channels 10 megohms each (low impedance available at extra cost). Phono 500,000 ohms.

TUBES: 2—6SJ7; 1—6SF5; 1—6N7; 2—6V6G; 1—5Y3G.

OUTPUT IMPEDANCES: 1.25; 2.5; 4; 8; 15; 250 and 500 ohms.

CONTROLS: Two microphone volume controls; one phono control; one tone control.

POWER REQUIRED: 100 watts, 110-120 volts AC 50-60 cycles.

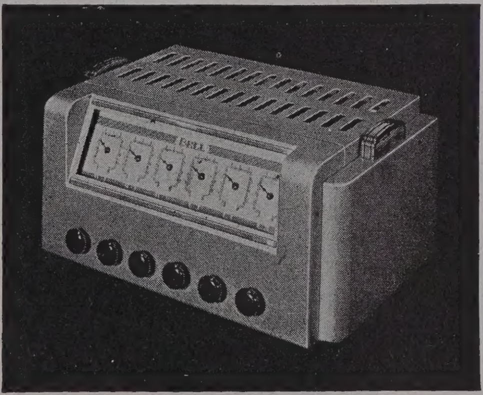
DIMENSIONS: 8½" deep; 8" high; 16½" long.

NET WEIGHT: 25 lbs.

Order Catalog No. U-5001

30-Watt Amplifier
Model 630

- **Four Separately Controlled Inputs**
- **Electronic Bass and Treble Boost**
- **Inverse Feedback Stabilizer**
- **Convenient Inclined Illuminated Panel**
- **Streamlined Two-Tone Housing**



A new high in amplifier value! Undistorted 30-watt output, a peak power of 38 watts, and a perfected circuit utilizing push-pull beam power output tubes and inverse feedback. Separately regulated tonal control—and when properly used, helps reduce feedback. Three microphone inputs and one phono input, with separate volume controls, permit any combination.

This versatile, feature-packed unit is encased in an ultra-modern housing finished in two-tone gray and featuring easy-to-read, illuminated pointer dials. One of the most attractive units you've ever seen! The interior circuit is accessible through an easily removable one-piece top and back. No detail in amplifier perfection has been overlooked!

MODEL 630 SPECIFICATIONS

POWER OUTPUT: 30 watts at less than 5% distortion. 38 watts peak.

GAIN: Microphone channels 132 db. Phono 85 db.

FREQUENCY RESPONSE: 35 to 12,000 cycles—within plus or minus 1 db.

INPUT IMPEDANCE: Three microphone channels 10 megohms each (low impedance available at extra cost). Phono 500,000 ohms.

TUBES: 3—6SJ7; 2—6SC7; 1—6C5; 1—6N7; 2—6L6G; 1—5U4G.

OUTPUT IMPEDANCES: 1.25; 2.5; 4; 8; 15; 250 and 500 ohms.

CONTROLS: Three microphone volume controls; one phono control; one bass boost tone control; one treble boost tone control.

POWER REQUIRED: 130 watts, 110-120 volts AC 50-60 cycles.

DIMENSIONS: 11" deep; 8½" high; 16½" long.

NET WEIGHT: 33 lbs.

Order Catalog No. U-5003

10-Watt Amplifier
Model 610

- **Undistorted Output**
- **Three Input Channels**
- **Modern Two-Tone Design**
- **Illuminated Sloping Panel**
- **Easily Removable Top**

MODEL 610 SPECIFICATIONS

POWER OUTPUT: 10 watts with less than 5% distortion. 14 watts peak.

GAIN: Microphone 115 db. Phono 75 db.

FREQUENCY RESPONSE: 50 to 10,000 cycles within 2 db.

INPUT IMPEDANCE: 2 Microphones 10 megohms. 1 Phono 500,000 ohms.

TUBES: 2—6SJ7; 1—6N7; 2—6V6G; 1—5Y3G.

OUTPUT IMPEDANCE: 1.25; 2.5; 4; 8; 15; 250 and 500 oms.

CONTROLS: Two volume controls for microphones, one for phono and one tone control.

POWER REQUIRED: 85 watts, 110-120 volts AC 50-60 cycles.

DIMENSIONS: 8½" deep; 8" high; 16½" long.

NET WEIGHT: 23 lbs.

Order Catalog No. U-5000

25-Watt Amplifier
Model 625

- **Electronic Bass and Treble Boost**
- **Three Separately Controlled Inputs**
- **Inverse Feedback Stabilizer**
- **Modern Housing—Illuminated Panel**
- **Built to Last—Easy to Service**

MODEL 625 SPECIFICATIONS

POWER OUTPUT: 25 watts at less than 5% distortion. 30 watts peak.

GAIN: Microphone channels 130 db. Phono 85 db.

FREQUENCY RESPONSE: Within plus or minus 1 db. 35 to 12,000 cycles.

INPUT CIRCUITS: Two microphone channels 10 megohms each (low impedance available at extra cost). Phono 500,000 ohms.

TUBES: 2—6SJ7; 1—6SF5; 1—6N7; 2—6L6G; 1—5U4G.

OUTPUT IMPEDANCE: 1.25; 2.5; 4; 8; 15; 250 and 500 ohms.

CONTROLS: Two microphone volume controls; one phono control; one bass boost control; one treble control.

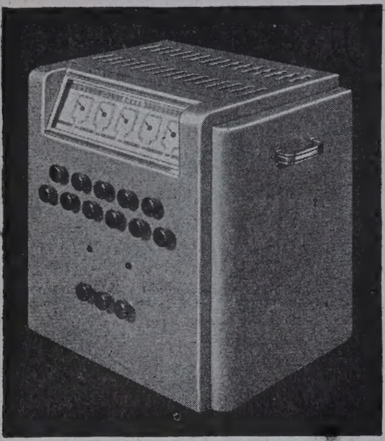
POWER REQUIRED: 120 watts; 110-120 volts AC 50-60 cycles.

DIMENSIONS: 8½" deep; 8" high; 16½" long.

NET WEIGHT: 27 lbs.

Order Catalog No. U-5002

HIGH WATTAGE AMPLIFIERS AND SPECIALS
By
BELL SOUND SYSTEMS, Inc.



- **50 or 100-Watt Undistorted Output**
- **Twin 50-Watt Power Units—Operable Separately or Together**
- **Electronic Treble Boost**
- **Automatic Expressor Level Control**
- **Automatic Expressor Switch**
- **Inclined Dial Panel with Remote Control Knobs**
- **Five Input Channels**
- **Tap Impedance Switch**
- **Compact, Modern Design**
- **Handles for Portability**

100-Watt Amplifier
Model 700

The finest amplifying unit money can buy. Powered by twin, independently operated 50 watt amplifiers, combined with many extra quality features, it affords versatility, power and clarity of tone for practically any P.A. requirement. Attractive, economical and exceptionally carefree in maintenance.

MODEL 700 SPECIFICATIONS

POWER OUTPUT OF EACH OUTPUT STAGE: 50 watts with not more than 2% distortion. 58 watt peak with not more than 7% distortion.

GAIN: Microphone channels, 135 db. low level. Phono channel, 90 db. high level.

FREQUENCY RESPONSE: 30 to 12,000 cycles within plus or minus 1½ db., with tone controls in normal position.

INPUT IMPEDANCE: Four microphone channels 10 megohms. One high impedance phono circuit, 500,000 ohms.

OUTPUT IMPEDANCE: Each amplifier, 1.25; 2.5; 4; 8; 15; 250; 500 ohms.

TUBES: 2—5U4G; 2—5Y3G; 4—6L6G; 2—6N7; 1—6SF5; 1—6L7 or 1612; 1—7F7; 2—6SC7; 4—6SJ7.

CONTROLS: Four microphone volume controls; one phono volume control; two master gain controls, one bass boost tone control; one treble boost tone control; one auto expressor level control; one auto expressor switch; two power switches—one for each amplifier unit; one power switch for preamplifier B supply.

POWER REQUIRED: 350 watts, 120 volt 50-60 cycle A.C.

DIMENSIONS: 17½" high; 12½" deep; 16½" long.

NET WEIGHT: 88 lbs.

Order Catalog No. U-5005

50-Watt Amplifier
Model 650

- **Quality—Power—Tone Excellence**
- **Four Separately Controlled Inputs**
- **Separate Bass and Treble Boosters**
- **Ultra-Modern—Illuminated Panel**
- **Beam Power Tubes and Inverse Feedback**

MODEL 650 SPECIFICATIONS

POWER OUTPUT: 50 watts at less than 5% distortion. 58 watts peak.

GAIN: Microphone channels 132 db. Phono 85 db.

FREQUENCY RESPONSE: 35 to 12,000 cycles—within plus or minus 1 db.

INPUT IMPEDANCE: Three microphone channels, 10 megohms each (low impedance available at extra cost). Phono 500,000 ohms.

TUBES: 3—6SJ7; 2—6SC7; 1—6SF5; 1—6N7; 2—6L6G; 1—5Y3G; 1—5U4G.

OUTPUT IMPEDANCE: 1.25; 2.5; 4; 8; 15; 250 and 500 ohms.

CONTROLS: Three microphone volume controls; one phono control; one bass boost tone control; one treble boost tone control.

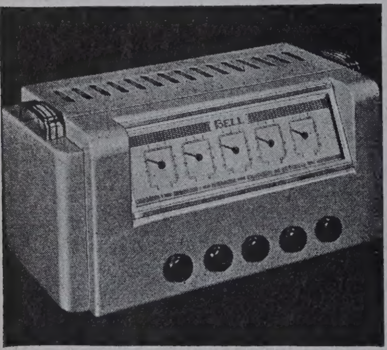
POWER REQUIRED: 215 watts, 110-120 volts AC 50-60 cycles.

DIMENSIONS: 12" deep; 8½" high; 16½" long.

NET WEIGHT: 44 lbs.

Order Catalog No. U-5004

A.C. MULTI-CHANNEL PRE-AMPLIFIERS



Illustrates Four-Channel-Model 604

Model 602—Two Channels

This finely engineered, beautifully housed, two channel, Pre-Amplifier is just the unit for installation where microphone equipment is to be used at a distance from the main amplifier, or where modern microphone equipment is to be adapted to a low gain amplifier. It provides for mixing two high impedance microphone circuits, with master gain control, and incorporates a built-in AC power supply.

Model 604

Similar to Model 602 but provides for mixing four high impedance "mikes," each having separate volume controls.

Order Catalog No. U-5007

MODEL 602 SPECIFICATIONS

OVER-ALL GAIN: 58 db.

TUBES: 3—6SJ7; 1—6X5G.

INPUT CHANNELS: Two 10 megohm inputs are provided for high impedance microphones.

OUTPUT IMPEDANCE: 500; 250 and 100,000 ohms.

CONTROLS: Two microphone mixer volume controls. One master gain control.

POWER REQUIRED: 50 watts, 110-120 volts AC 50-60 cycles.

DIMENSIONS: 8½" deep; 8" high; 16½" long.

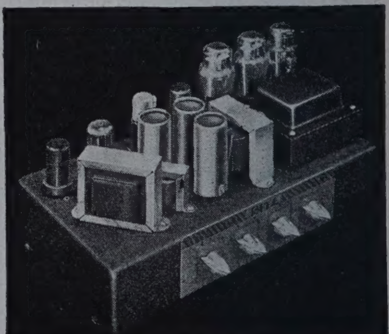
NET WEIGHT: 20 lbs.

Order Catalog No. U-5006

Model V-15 Microphone and Phono Amplifier

The renewed popularity of recorded music has brought heavy demands for this equipment. The model V-15 phono amplifier delivers unsurpassed fidelity of tone and faithfulness from every type of recording. It features 15 watt undistorted output and a new form of automatic volume expansion. This expander recaptures with amazing fidelity the full richness of expression, power, range, and volume of the original music. It requires no intricate adjustment; and it will reproduce symphonic, dance or vocal music equally well.

Model V-15 is designed especially for record reproduction. Its compactness makes it an ideal unit with which to modernize older phonographs, or to incorporate in new or old record-playing systems for home, school or entertainment use. It has a high impedance (10 megohm) microphone input channel for regular public address use, or for home novelty stunts. It is also equipped with a volume control for the microphone and one for the phonograph; a control for the degree of expansion, and a fourth control which permits a range of tone adjustment for widely varying requirements. Tubes utilized: 1—6SJ7; 1—7F7; 1—6L7; 1—6N7; 2—6V6G; 1—5Y3G.

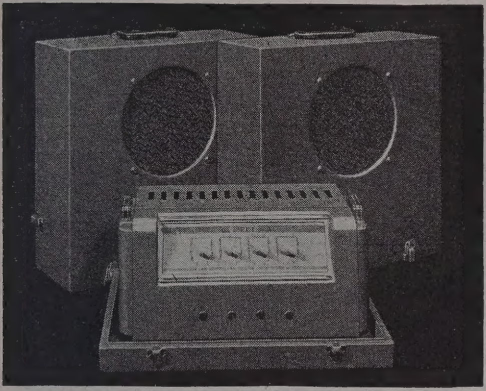


MODEL V-15
Order Catalog No. U-5009

ORDER BY CATALOG NUMBER — TUBES NOT INCLUDED

POPULAR PUBLIC ADDRESS SYSTEMS
By
BELL SOUND SYSTEMS, Inc.

10-14 Watts—Model P.A. 610



- **Undistorted 10-Watt Output**
- **Three Input Channels**
- **Illuminated Control Panel**
- **Dual Speakers—One Case**
- **Easy to Operate—Easy to Service**

This moderately priced, medium powered portable system is "just right" for many needs. It utilizes a Model 610 amplifier (for specifications see page C-15) which incorporates push-pull beam power output tubes and inverse feedback, and develops undistorted output of 10 watts, with a peak power of 14 watts. Three input channels—two microphone and one phono have separate volume controls and can be simultaneously mixed.

The amplifier is housed in a streamlined cabinet finished in two-tone gray and trimmed in deep red. Two 10-inch high quality dynamic speakers are mounted in a gray, Keratol-covered carrying case which also accommodates the amplifier, cables and microphone. A similar system for permanent installation is available in Model P.X. 610D, listed below.

MODEL P.A. 610 SPECIFICATIONS

For Amplifier Specifications see Model 610—page C-15

P.A. 610E—ECONOMY DUAL SPEAKER SYSTEM, LESS TUBES

1—Model 610 Amplifier (less tubes).
2—Model 33—10" Dynamic Speakers.
2—25-ft. Speaker Cables and Plugs.
1—Model 30 Crystal Microphone.
1—15-ft. "Mike" Cable and Plug.
1—Model 20 Desk Stand.
1—Model 15—Three Piece Carrying Case.
Shipping Weight—48 lbs.

Order Catalog No. U-5102

P.A. 610—STANDARD DUAL SPEAKER SYSTEM, LESS TUBES

Same as Model P.A. 610E except choice of 59, 60, 62 or 63 "Mike" (Model 59 unless otherwise specified). Less tubes. Shipping Weight—48 lbs.

Order Catalog No. U-5103

P.A. 610D—DELUXE DUAL SPEAKER SYSTEM, LESS TUBES

Same as Model P.A. 610 except with Model 57 Uniplex Crystal Microphone for greater distance pickup. Less tubes. Shipping Weight—50 lbs.

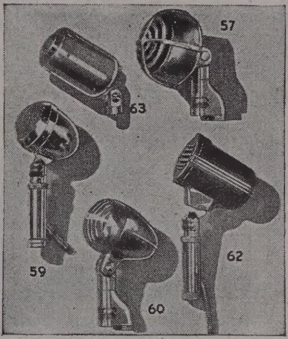
Order Catalog No. U-5104

P.X. 610D—DELUXE PERMANENT SYSTEM, LESS TUBES

1—Model 610 Amplifier (less tubes).
2—Model 33—10" Dynamic Speakers.
2—Model 90 Speaker Housings.
1—Model 57 Uniplex Crystal Microphone.
1—Model 22 Pedestal "Mike" Stand.
Shipping Weight—48 lbs.

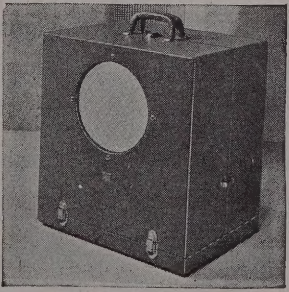
Order Catalog No. U-5105

Note: For other accessories available for this system, write to factory.



MICROPHONES

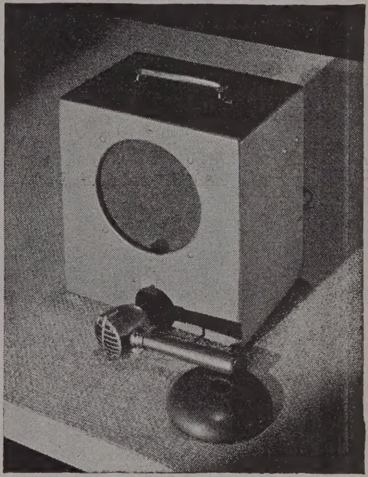
Bell Portable P.A. Systems can be supplied with microphones illustrated: No. 59—Crystal diaphragm; No. 63—high impedance dynamic; No. 57—"Uniplex," sensitive in front, dead in rear; No. 62—Dynamic protected against humidity and temperature change; or No. 60—"Rocket" Crystal diaphragm.



Model 15 CARRYING CASE

Cat. No. 1024—Overall size: 18" wide, 20" high and 13½" deep.

6-8 Watts
Model 606



Ballyhoo Unit

- **6-8 Watts**
- **Beam Power Output**
- **Quality Crystal Microphone**
- **Completely Self-contained**
- **Two-way Mike Stand**

A compact, quality-tone amplifier at rock-bottom cost. Window and store demonstrators, auctioneers, lecturers, ballyhoo artists, entertainers of every description hail this as the ideal unit for smaller crowds.

Has one input for a high impedance microphone and one for a high impedance phono pickup.

The carrying case is of durable construction, covered in brown Keratol. The 8-inch loudspeaker is an electro-dynamic type. Over-all size of complete portable unit is 11¼" x 12" x 8". Weight is 14 pounds.

MODEL 606 SPECIFICATIONS

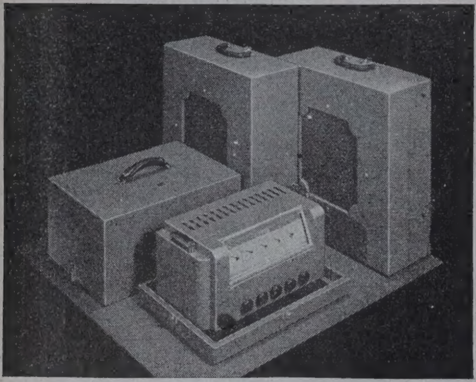
Ballyhoo System, with tubes.

1—6-8 Watt Amplifier with tubes.
4—Tubes: 1—6SJ7; 1—6LG6; 1—6C5; 1—5Y3G.
1—Model W30 Crystal Microphone with 15 ft. mike cable and plug.
1—8" Electro-dynamic speaker with 25 ft. cable and plug.
1—Carrying Case.
1—Two-Way (Desk or Hand) "Mike" Stand.
Cased Size: 11¼" x 12" x 8".
Shipping weight, 16 lbs.

Order Catalog No. U-5100

VERSATILE PUBLIC ADDRESS SYSTEMS
By
BELL SOUND SYSTEMS, Inc.

25 Watts—Model P.A. 625



- **Undistorted 25-Watt Output**
- **Electronic Bass Boost**
- **Electronic Treble Boost**
- **Inverse Feedback**
- **Inclined Illuminated Dials**
- **Three Inputs—Separate Control**
- **Smart, Modern Design and Finish**
- **Compact, Easy to Carry**

Popular wattage, inexpensive, compact, and light in weight.

Amplifier Model 625, described on page C-15, has peak power of 30 watts. Inverse feedback stabilizer, bass boost and treble compensators, two electronic tone controls, and separate controls for all three channels.

Complete system is contained in two compact cases. The speaker case is 20" high, 18" long, and 13½" deep. The amplifier case is 10" x 18" x 12½". Also supplied for permanent installation system.

MODEL P.A. 625 SPECIFICATIONS

for specifications of amplifier see Model 625—page C-15.

P.A. 625E—ECONOMY SYSTEM (DUAL SPEAKER)
1—Model 625 Amplifier (less tubes).
2—Model 34 Heavy Duty Dynamic 12" Speakers.
2—50 Ft. Speaker Cables and Plugs.
1—Model 30 Crystal Microphone.
1—15 Ft. Mike Cable and Plug.
1—Model 20 Desk Type "Mike" Stand.
1—Model 95 Two Piece Carrying Case for Speakers.
1—Model 14 Amplifier Carrying Case.
Shipping Weight—65 lbs.

Order Catalog No. U-5120

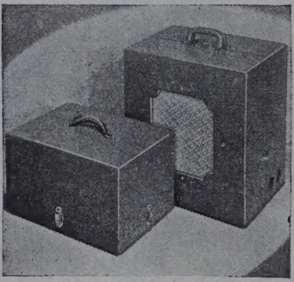
P.A. 625—STANDARD SYSTEM (DUAL SPEAKERS)
Same as Model P. A. 625E except choice of Model 59, 60, 62 or 63 "Mike," (Model 59 unless otherwise specified).
Shipping Weight—65 lbs.

Order Catalog No. U-5121

P.X. 625D—DELUXE PERMANENT SYSTEM
1—Model 625 Amplifier (less tubes).
2—Model 34 Heavy Duty Speakers.
2—Model 90A Speaker Housings—Walnut **Finish.**
1—Model 57 Uniplex Crystal Microphone.
1—Model 22 Pedestal Microphone Stand.
Shipping Weight—58 lbs.

Order Catalog No. U-5122

NOTE: For other accessories that may be used with this System, write factory.



Model 14 **Cat. No. U-1023** **Model 95** **Cat. No. U-1038**

30 Watts—Model P.A. 630

- **Four Individually Controlled Inputs**
- **Separate Bass and Treble Boost**
- **Inverse Feedback Stabilizer**
- **30-Watt Undistorted Output**
- **Inclined, Illuminated Panel**
- **Handsome Streamlined Design**
- **Easily Accessible for Service**
- **Strong, Compact Construction**

MODEL P.A. 630 SPECIFICATIONS

For Amplifier Specifications See Model 630—page C-15.

P.A. 630—STANDARD SYSTEM (DUAL SPEAKER)
1—Model 630 Amplifier (less tubes).
2—Model 35 Heavy-Duty Dynamic 12" Speakers.
2—50-ft. Speaker Cables and Plugs.
1—Microphone; choice of 59, 60, 62 or 63. (Model 59 Crystal Microphone furnished unless otherwise specified.)
1—25-ft. Mike Cable and Plug.
1—Model 20 Desk Type "Mike" Stand.
1—Model 95 Two Pce. **Carrying Case** for Speakers.
1—Model 14 Amplifier Carrying Case.
Shipping Weight—70 lbs.

Order Catalog No. U-5130

P.A. 630D—DELUXE SYSTEM (DUAL SPEAKER)
Same as Model P.A. 630 except supplied with Model 57 Uniplex Crystal Microphone for greater distance pickup.

Order Catalog No. U-5131

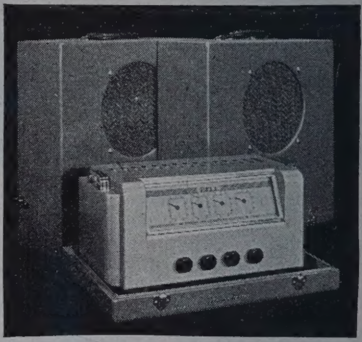
P.X. 630D—DELUXE—(PERMANENT SYSTEM)
1—Model 630 Amplifier (less tubes).
2—Model 35 Heavy-Duty Dynamic 12" Speakers.
2—Model 90A Spkr. Housings—Walnut Finish.
1—Model 57 Uniplex Crystal Microphone.
1—Model 22 Pedestal Microphone Stand.
Shipping Weight—68 lbs.

Order Catalog No. U-5132

NOTE: For other accessories, write factory.

15 Watts—Model P.A. 615

- **Three Input Channels**
- **Illuminated Control Panel**
- **Convenient Angle-Set Dials**
- **Twin Heavy-Duty Speakers**
- **Inverse Feedback Stabilizer**
- **Easily Portable in One Case**



MODEL P.A. 615

Medium wattage with many fine points of design. Peak of 18 watts. High gain amplifier (see page C-15 for specifications). The two 10-inch high quality dynamic loudspeakers, in neat gray Keratol housings fit together to form a compact carrying case which also houses the amplifier, microphone and necessary cable.
Furnished for permanent installation as Model P.X. 615D.

MODEL P.A. 615 SPECIFICATIONS

For Amplifier Specifications See Model 615—page C-15.

P.A. 615E—ECONOMY PORTABLE SYSTEM (DUAL SPEAKER)
1—Model 615 Amplifier (less tubes).
2—Model 33 Heavy-Duty 10" Speakers.
2—25-ft. Speaker Cables and Plug.
1—Model 30 Crystal Microphone with 15 ft. Shielded Cable and Plug.
1—Model 20 Desk-type Microphone Stand.
1—Model 15 Portable Carrying Case.
Shipping Weight—50 lbs.

Order Catalog No. U-5110

P.A. 615—STANDARD PORTABLE SYSTEM (DUAL SPEAKER)
Same as Model P.A. 615E except with choice of Model 59, 60, 62 or 63 "mike." (Model 59 unless otherwise specified.)
Less tubes.
Shipping Weight—50 lbs.

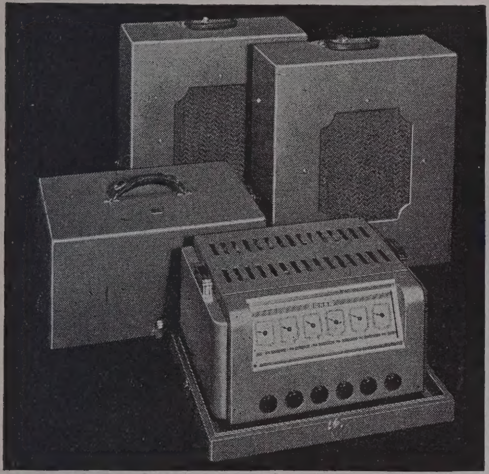
Order Catalog No. U-5111

P.A. 615D—DELUXE PORTABLE SYSTEM (DUAL SPEAKER)
Same as Model P.A. 615 except with Model 57 Uniplex Crystal Microphone for greater distance pickup.
Shipping Weight—50 lbs.

Order Catalog No. U-5112

NOTE: For other accessories, write factory.

HIGH WATTAGE AND MOBILE P.A. SYSTEMS
By
BELL SOUND SYSTEMS, Inc.



50 Watts—Model P.A. 650

- **Strikingly Modern Design**
- **Unsurpassed Tone Quality**
- **Four Controlled Inputs**
- **Electronic Treble Boost**
- **Inverse Feedback Stabilizer**
- **Beam Power Output Tubes**
- **Convenient, Inclined Dial Panel**

"Deluxe" equipment featuring ample wattage to cover a majority of needs, both large and small.

The high-gain 50-watt amplifier (see Model 650—page C-16) has almost unlimited tone selection. Inverse feedback eliminates acoustic feedback and also stabilizes the amplifier.

Three microphone channels and the phono pickup channel have separate volume controls. Connections are provided for using and matching as many as six speakers.

Matchless appearance is achieved in this streamlined amplifier housing. The steel cabinet is of welded construction, finished in rich two-tone gray. Trim is in deep red plastic. Pointer dials are mounted on an inclined panel, and are indirectly illuminated. Dials have remote knob control. The carrying case for the amplifier matches the twin Keratol-covered speaker housings, which fit together to form a convenient, easily-portable carrying case. The speaker case also holds the microphone and cables.

SIZES: Amplifier Case—10" high, 18" wide, 12½" deep; Speaker Case — 20" high, 18" wide, 13½" deep.

MODEL P.A. 650 SPECIFICATIONS

For Amplifier Specifications See Model 650 —page C-16.

P.A. 650—STANDARD SYSTEM (DUAL SPEAKER)

1—Model 650 Amplifier (less tubes).
2—Model 35 Heavy-Duty 12" Dynamic Speakers.
2—50-ft. Speaker Cables and Plugs.
1—Microphone; choice of 59, 60, 62 or 63. (Model 59 Crystal Microphone furnished unless otherwise specified.)
1—25-ft. Mike Cable and Plug.
1—Model 20 Desk Type Mike Stand.
1—Model 95 Two-pce. carrying case for Speakers.
1—Model 14 Amplifier Carrying Case.
Shipping Weight—80 lbs.

Order Catalog No. U-5140

P.A. 650D—DELUXE SYSTEM (DUAL SPEAKER)

Same as Model P.A. 650 except supplied with Model 57 Uniplex Crystal Microphone for greater distance pickup.

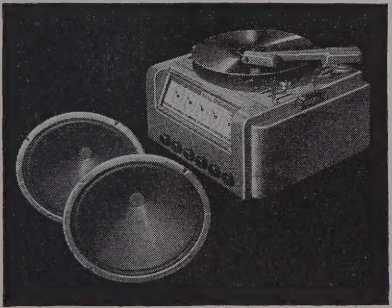
Order Catalog No. U-5151

P.X. 650D—DELUXE PERMANENT INSTALLATION SYSTEM

1—Model 650 Amplifier (less tubes).
2—Model 35 Heavy-Duty 12" Dynamic Speakers.
2—Model 90A Speaker Housings—Walnut Finish.
1—Model 57 Uniplex Crystal Microphone.
1—Model 22 Pedestal Microphone Stand.
Shipping Weight—76 lbs.

Order Catalog No. U-5142

NOTE: for other accessories, write factory.



30 Watt Mobile
Model M-30

- **Universal (110-Volt AC or 6-Volt DC) Operation**
- **Three Separately Controlled Inputs**
- **Dual Shielded Chassis**
- **Inverse Feedback**
- **Beam Power Output Tubes**
- **Power Economizer Switch**
- **Bass Boost and Treble Compensators**
- **New Inclined, Illuminated Panel**

Sufficient wattage to cover gatherings of as many as 10,000 people, this all-purpose mobile system operates on either a 6-volt DC storage battery or 110-volt 60 cycle AC line current. Conversion from one type of current to the other is simple.

Current consumption is reduced by a power economizer switch and high-efficiency dynamic speakers. Separate power switches. The amplifier housing is finished in two-tone gray.

MODEL M-30 SPECIFICATIONS

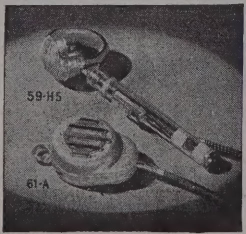
POWER OUTPUT: 30 watts at less than 5% distortion. Peak, 35 watts.
POWER CONSUMPTION: Approximately 25 amperes for DC operation; 160 watts for 110-volt AC operation.
TUBES: 2—6SJ7; 1—6C5; 1—6N7; 2—6L6G; 2—6X5G.
INPUT CIRCUITS: Three channels—two for high impedance microphones—one for phonograph.
OUTPUT IMPEDANCE: 500; 250; 15; 8; 4; 2.5; 1.25 ohms.
CONTROLS: Three volume controls—bass boost and treble boost controls, filament switch, economizer power supply switch and phono switch.
POWER REQUIRED: 6 volts DC—110-120 volts, 60 cycles AC.
DIMENSIONS: 14½" deep; 9" high; 16½" long.
NET WEIGHT: 43 lbs.

MODEL M-30—COMPLETE MOBILE SYSTEM, LESS TUBES

1—30 Watt Amplifier-Phono Assembly (less tubes).
2—Model 35 Heavy-Duty 12" Dynamic Speakers each with 25-ft. Cable and Plug.
1—Model 59HS Crystal Microphone (Model 61A Dynamic if preferred).
Shipping Weight—65 lbs.

Order Catalog No. U-5054

NOTE: For trumpets and other accessories write factory.



While Model 59HS (Cat. No. U-1009) Crystal Microphone is supplied, Model 61A (Cat. No. U-1007) dynamic type microphone will be furnished if preferred.

15 Watt Mobile
Model MN-15

SPECIFICATIONS

POWER REQUIRED: 6 volt DC or 110-120 volt 60 cycles AC.

POWER CONSUMPTION: Approximately 20 amperes for DC operation; 120 watts for AC operation.

TUBES: 1—6SJ7; 1—6C5; 1—6N7; 2—6V6G; 2—6X5G.

INPUT CIRCUIT: Two channels, one for high impedance microphone, one for phono.

OUTPUT IMPEDANCE: 500; 250; 15; 8; 4; 2.5; and 1.25 ohms.

CONTROLS: Two volume controls—one for microphone, one for phonograph; one tone compensator; filament power and phono switches.

SIZE: 12" deep; 9" high; 16½" long.

WEIGHT: 35 lbs. (Amplifier phono unit only.)

MODEL MN-15—COMPLETE MOBILE SYSTEM, LESS TUBES

1—15-watt Amplifier-Phono Assembly (less tubes).

2—Model 34 Heavy-Duty 12" Speakers with 15-ft. Cables.

1—Model 59HS Crystal Microphone (Model 61A dynamic type if preferred).

Shipping Weight—55 lbs.

Order Catalog No. U-5050

NOTE: For trumpets and other accessories write factory.

PHONO-P.A. AND SCHOOL SYSTEMS
By
BELL SOUND SYSTEMS, Inc.

15 Watt Phono—P.A. System

- Self-Contained Phono Unit
- 15-Watt Undistorted Output
- Beam Power Output Tubes
- Inverse Feedback Stabilizer
- Improved Treble Compensator
- Portable—Easy to Operate
- Plays All 12" and Smaller Records

Model 676

One of the most completely satisfactory phono systems ever offered for general use where 110 volt AC current is available. It combines a 15-watt amplifying system of quality and tone with a phono-pickup that plays all 12-inch and smaller records. Capacity is ample for the majority of needs.

The high gain amplifier has a peak power of 18 watts. Specifications for the amplifier are very similar to those for Model 615, shown on page C-15. Inverse feedback; improved tone compensator; beam power output tubes; and two microphone inputs and one phono input, each with separate volume controls are features.

Amplifier housing is of modern design, with two-tone-gray finish. Trim is in deep red plastic. A high quality phono turntable and crystal pickup are mounted on top of the amplifier. The phono unit operates at a speed of 78 r.p.m.

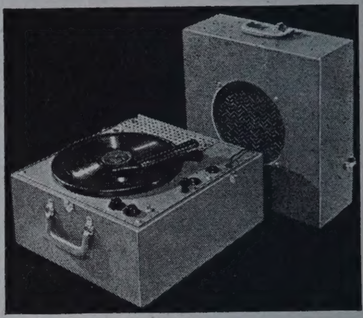
The two 10-inch heavy-duty dynamic speakers are conveniently assembled in two-section case covered in gray Keratol. This case also provides space for the amplifier-phono unit. Over-all size of the case is only 18" wide, 20" high, and 15½" deep.

Model 676—Specifications

POWER OUTPUT: Rated 15-watt. Peak, 18 watts.
OVER-ALL GAIN: 124 db.
TUBES: 2—6SJ7; 1—6SF5; 1—6N7; 2—6V6G; 1—5Y3G.
CONTROLS: AC off-on switch; three volume controls; treble compensator.
OVER-ALL SIZE OF AMPLIFIER UNIT: 12" wide; 8½" high; 16½" long.
WEIGHT: 35 lbs. (Amplifier unit only.)

MODEL 676—PHONO—P.A. SYSTEM (DUAL SPEAKER SYSTEM)

1—15-watt Amplifier with Phono Turntable and Crystal Pickup (less tubes).
2—Model 33 10" Heavy-Duty Speakers.
2—25-ft. Speaker Cables and Plugs.
1—Model 59 Crystal Microphone.
1—25-ft. "Mike" Cable and Plug.
1—Model 20 Desk Type Stand.
1—Model 15 Three-piece Carrying Case.



10 Watt Phono—P.A.
Model 677

A smaller capacity 10 watt system similar to Model 676. Fine tone amplifier like Model 610, described on page C-15. Fine quality motor and crystal pickup. Takes 12-inch records—speed, 78 r.p.m. One 10" dynamic speaker. Amplifier-phono unit and speaker housed in one gray Keratol carrying case, size 13" x 16¼" x 17".

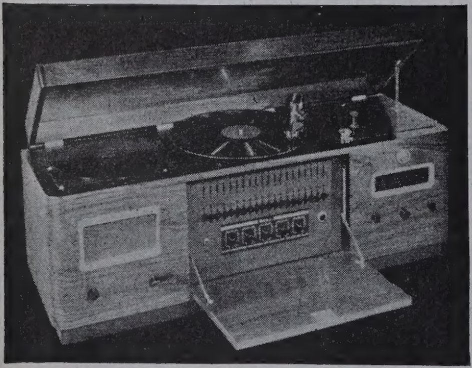
Model 677—Specifications

POWER OUTPUT: Rated 10 watts. Peak 14 watts.
OVER-ALL GAIN: 122 db.
TUBES: 1—6SJ7; 1—6N7; 2—6V6G; 1—5Y3G.
CONTROLS: AC on-off switch, one volume control for microphone and one for phonograph, tone control.
OVER-ALL SIZE: Amplifier-Phono unit 13" wide, 16¼" high and 17" long.
WEIGHT: 36 lbs.

MODEL 677—COMPLETE PHONO-AMPLIFIER (SINGLE SPEAKER SYSTEM)

1—10-watt Amplifier with Phono Turntable and Crystal Pickup (less tubes).
1—Model 33 Heavy-Duty Dynamic 10" Speaker.
1—25-ft. Speaker Cable and Plug.
1—Model 30 Crystal Microphone.
1—15-ft. "Mike" Cable and Plug.
1—Model 20 Desk Stand.
Shipping Weight—42 lbs.

Order Catalog No. U-5177



MODEL 601—ZEPHYR—(Unit shown above)
Shipping Weight—55 lbs.

Order Catalog No. U_5176

1—Model 615 Amplifier Unit, 15-watt (less tubes).
1—3½ watt Call-Reply Amplifier (less tubes).
1—6 Tube Superheterodyne Radio (less tubes).
1—Electric Phono Turntable and Pickup.
1—Headphone Monitor Input.
1—Set of 10 Room Switches.
1—Walnut Cabinet.

Order Catalog No. U-5275

NOTE: For further details on variations and combinations of this equipment, write factory.

COMPLETE SYSTEM FOR SCHOOLS
Zephyr Model 601

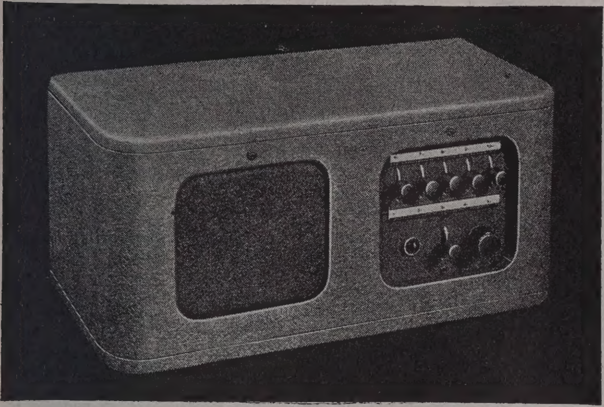
Everything needed to give the modern school, hotel, club or hospital an all-purpose sound system is available in the new Bell Zephyr Unit.

RADIO—A high-quality, superheterodyne receiver of standard manufacture, features: Frequency coverage, 537 to 1660 KC, 5.85 to 18.8 MC—6 tubes, including cathode-ray tuning indicator (magic eye)—R.F. mixer, and oscillator stages on all bands—3-Gang precision-tuning condenser—Full-vision, calibrated dial—7¼" Linear scale; vernier tuning—Sensitivity control—Single-stage, high-gain ferrocart I.F. channel—Automatic volume control—Audio volume control.

AMPLIFIER—A 15-watt amplifier, with a total harmonic distortion of not more than 5% under average output conditions. Circuit is four-stage class-A resistance coupled. Filter components are built into the amplifier chassis. The room-selector keys are of the lever-operated three-position type, each switch having positions for talk-back, radio or phono, and off. For larger requirements an amplifier having additional power output can be furnished.

PHONO PICKUP—The electrical turntable and phonograph pickup are capable of playing 10" or 12" laterally-cut records. One-speed motor provides for 78 r.p.m. records. Special phono units can be supplied if desired.

BELfone Intercommunicating Systems
By
BELL SOUND SYSTEMS, Inc.



350 Series BELfones

BELfone Systems save thousands of unnecessary steps, eliminate lost time and irritating, costly delays in all kinds of inter-departmental communications. Instant contact with other departments or offices is obtained by merely pressing a key . . . conversation is as easy as though the parties involved were facing each other across a desk! Waiting for central switchboard connections is eliminated. Employees are never called away from their work needlessly.

The 350 Series includes specific models for systems of Master-to-Master type and Master (Central) to Sub-station type. Their compactness, efficiency, dependability and clarity of tone is unmatched in their price range. Power consumption is remarkably low. No noticeable heat is generated.

☜ Left:

MODEL 350 Master (Control) Unit: In choice of brown keratol or walnut finish. 10 Sub-station capacity. **Cat. No. U-5220.**

- **Key-type Selector Switches**
- **Two-Watt Power Output**
- **Convenient Key-type Send-Receive Switch**
- **Low Power Consumption**
- **Two Volume Controls—One for Speaker Stations and One for Master Unit**
- **Uses either AC or DC**
- **Plug-In Cable Connector**
- **Beautiful Walnut or Keratol Cabinets. (Add DT for Keratol)**
- **Loctal Tubes (Low Power Consumption and Minimized Heat Development)**
- **Dependable, Proved Performance**

MULTIPLE MASTER TO MASTER SYSTEMS

For Complete, Deluxe Intercommunication

MODEL 351-M Master Unit: Use in master-to-master circuit arrangements where any number of master units up to 11, inclusive, are desired for complete two-way intercommunication. Used in master unit systems only. Operates on 110-volt AC or DC. Other features identical to Model 350.

Order Catalog No. U-5222

MODEL 352M: Same features as Model 351M, except has 3.5 watt power output. 110 volts, 60 cycles AC only.

Order Catalog No. U-5226

CENTRAL TO SUBSTATION SYSTEMS

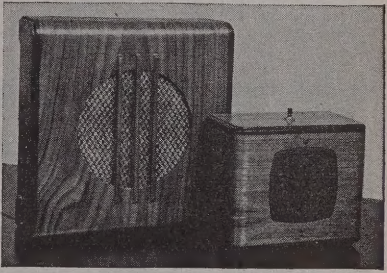
MODEL 350 Master (Central) Unit: Use with 10 or fewer sub-stations. Operates on either 110 volt DC or AC. Has 2 watt power output. Specify walnut or brown keratol cabinet. Weight 8 lbs.

Order Catalog No. U-5220

MODEL 352 Master (Central) Unit: Use same as Model 350, except that 3.5 watt power output supplies greater volume. 110 volts, 60 cycles AC only. Weight 10 lbs.

Order Catalog No. U-5224

NOTE: All Models with "M" suffix may be use with sub-stations for paging only.



MODEL 357
Cat. No. U-5231
Wall Type Substation

MODEL 356
Cat. No. U-5230
Desk Type Substation

Use with Master (Central) Units 350 and 352. Equipped with switch to initiate call to Central Unit but not to another substation.

360 SERIES—INTERCOMMUNICATION AT LOW COST

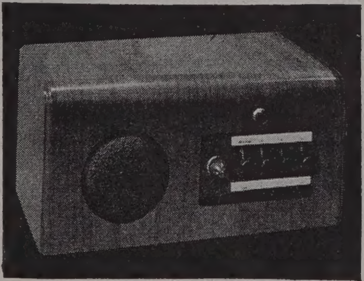
Multiple Master to Master Systems

Complete Two-Way Communication
MODEL 366M: Use for Master-to-Master circuits where any number of master units, up to seven inclusive, are desired. May be used with Sub-stations, but for paging only.

Order Catalog No. U-5207

Central to Substation Systems

The BELfone Master (Central) Unit listed at right is for two-way communication between a central station and each of several outlying substations. The outlying stations can communicate with the central station, but not with each other.



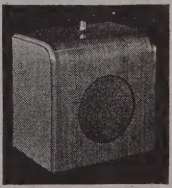
MODEL 366: This Master (Central) unit has selector switches for six Sub-stations and is recommended for three- or four-station systems where additional substations are apt to be required later.

Order Catalog No. U-5205

- **Key-type Selector Switches**
- **Two-Watt Power Output**
- **Convenient Key-type Send-Receive Switch**
- **Low Power Consumption**
- **Two Volume Controls—One for Speaker Stations and One for Master Unit**
- **Operates on Either 110 volts AC or DC**
- **Plug-In Cable Connector**
- **Beautiful Walnut or Tan Leatherette Cabinets***
- **Octal Tubes (Low Power Consumption and Minimized Heat Development)**

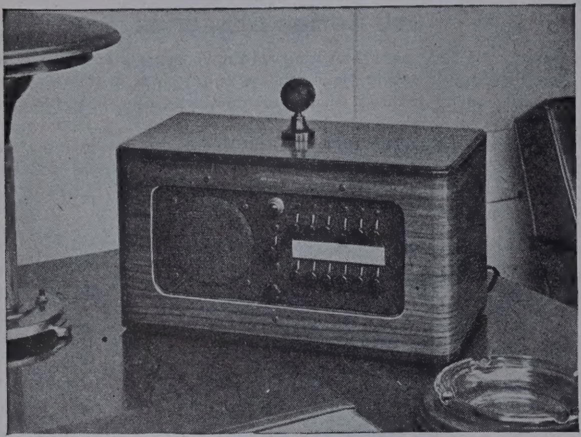
* To order leatherette cabinets, add "DT" to model number of each unit.

MODEL 367: Desk-type speaker substation Use with Master (Central) Unit Model 366. This unit is equipped with a push-button call switch, permitting substation to call central station — but not used after conversation is started.
Catalog No. U-5210



MODEL 367S: Same as Model 367, above, without call switch.
Catalog No. U-5211

DELUXE INTER-COMMUNICATION AND SOUND EQUIPMENT
By
BELL SOUND SYSTEMS, Inc.



Model 374SS BELfone—provides for up to 12 station system (also may be furnished with 24 up). Deluxe design—walnut finish. Operates on 110 volt AC, 50-60 cycle only. Order Catalog No. U-5240.

370 Series BELfone
Deluxe Secretive Inter-Comm

No finer inter-office communication equipment can be found than this beautifully designed, full-featured BELfone Model 374SS. It provides for completely secretive conversations between any two parties, with connections in the standard unit for a system of as many as 12 additional stations. With this secretive feature no third party can listen-in on the conversation between any two stations, although it is possible to call in on a busy circuit in case immediate contact is needed. Also a "busy signal" indicates when the party being called is already communicating with another station.

Another advantage of this model is that no talk-listen switch is required. A special, high fiedlity microphone is mounted on top of the cabinet. To converse with an individual at any other station, you merely depress the station selector key and talk back and forth without further use of keys—exactly as though the individual were at your desk.

Two levels of additional volume for attracting attention or paging are instantly available through simple key switch pressure. Long life is assured by the fact that power consumption is automatically reduced during stand-by periods.

Several stations may join in a conference merely by switching the station selector keys of all parties to be included on any one of the units. Write us for further particulars in regard to flexibility.

Speaker Sub-Stations

One or more speaker substations may be used in a system of 374SS master units, at stations where a paging or call service only is required, and where two-way conversation or reply is not essential.

HEAVY-DUTY SOUND AND VOICE-PAGING EQUIPMENT

for Industrial Buildings, Hospitals, Airports, Depots, etc.

The war has proven that "communications" are one of the prime factors in conducting a successful operation. Every modern civilian establishment now realizes the necessity for a dependable, efficient system of independently operated sound and voice paging. But until now equipment for this industrial service had to be either custom built or made up of light duty standard commercial units. Bell Heavy-duty Sound Equipment offers for the first time a truly standard industrial system readily adaptable to practically any plant requirement . . . for broadcasting of music to workers on the job or during rest periods . . . saving time through explicit verbal paging . . . permits management to make plant-wide talks . . . or serves as a signaling or alarm system. Heavy-duty, top-quality standard units specially designed and built for high power amplification, foolproof and tamper-proof operation, and long maintenance-free service. The standard units are designed not only for initial installations of any size but also to permit future expansion of the system by merely adding units to the original setup.

Rack-Type (Left) **Cabinet-Type (Below)**

An "on-off" switch, a microphone with either a hand or foot "Talk-switch," and a phonograph unit (if recordings are to be used) are all located at receptionist's desk or control staton. A Driver or Control Amplifier and one or more Speaker Amplifiers (AC operated) are remotely located at convenient points. Loud speakers are then strategically located in all departments or buildings to be covered by the system. Though the on-off switch is turned on, the units, being relay operated, merely idle except during actual broadcasting.

Control circuits are of low voltage-type. Through the use of a control amplifier the speaker power amplifiers may be located in the departments covered by their respective speakers. The unit is protected against tampering by a modern steel housing and is capable of controlling up to 10 or more 100-watt speaker amplifiers.

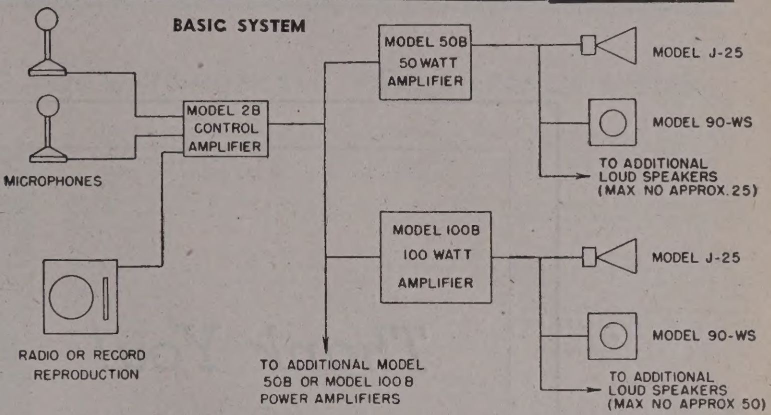
The speaker amplifier is of 50 or 100-watt capacity. Every part is of the highest, heavy-duty quality. Under average conditions, one 100-watt amplifier will adequately handle up to 50 speakers.

HEAVY-DUTY SOUND AND VOICE-PAGING EQUIPMENT

By

BELL SOUND SYSTEMS, Inc.

(Cabinet Model)


BASIC SYSTEM
MICROPHONES
MODEL 2B CONTROL AMPLIFIER
MODEL 50B 50 WATT AMPLIFIER
MODEL 100B 100 WATT AMPLIFIER
RADIO OR RECORD REPRODUCTION
TO ADDITIONAL MODEL 50B OR MODEL 100B POWER AMPLIFIERS
MODEL J-25
MODEL 90-WS
TO ADDITIONAL LOUD SPEAKERS (MAX NO APPROX. 25)
MODEL J-25
MODEL 90-WS
TO ADDITIONAL LOUD SPEAKERS (MAX NO APPROX 50)

Model 2B Heavy-Duty Rack or Cabinet CONTROL AMPLIFIER

Power Output: 1 watt into low impedance line. Power sufficient to drive up to 15 Bell Model 50B or 100B power amplifiers.

Gain and Frequency Response:

Microphone Channels—Gain 83DB.

Frequency response within 3DB from 50 to 8,000 cycles.

Phone Channel—Gain 45DB.

Frequency response within 3DB from 40 to 12,000 cycles.

Noise and Hum Level: 60DB below full output.

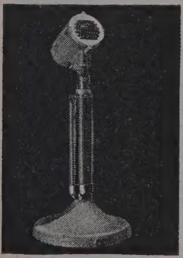
Input Channels: Two high gain high impedance inputs suitable for high impedance crystal or dynamic microphones and one low gain high impedance input suitable for radio record reproduction or programs from telephone line use. (Low impedance inputs available at additional cost.)

Tubes Utilized: 2-6SJ7; 3-6L7; 1-6N7; 2-6F6; 1-VR-150-30; 1-5Y3G.

Power Source: 110-120 volts; 50-60 cycles AC.

Cabinet: Wall mounting type heavy gauge steel, 19" long x 12" high x 13" deep, gray wrinkle finish—with knockouts for conduit wiring. Complete with tubes. **Catalog No. 2000**

Rack Panel Type: Mounted on standard 19" (width) steel rack panel. 12¼" high, gray wrinkle finish. Complete with tubes. **Catalog No. 2001.**



Model 62G—Dynamic microphone on 9" desk stand; illustrated, equipped with hand "talk" switch. If preferred foot treadle can be furnished in place of hand switch. Cat. No. U-1153.

Model 50B Rack or Cabinet 50 Watt AMPLIFIER

Power Output: 50 watts; 3% Distortion.

Gain: 65DB.

Frequency: Response within 3DB from 40 to 10,000 cycles. Suitable for finest reproduction of music or voice.

Hum and Noise Level: 58DB below full output.

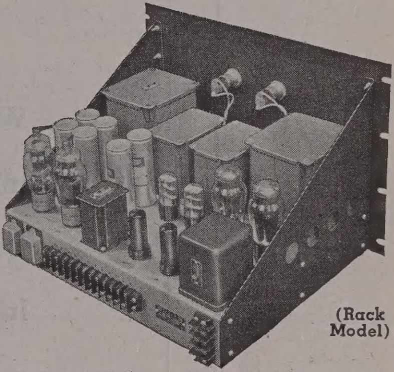
Input Impedance: 600 ohms normal can be supplied bridging input.

Output Impedance: 500-250 ohms.

Tubes Utilized: 1-6N7; 2-6F6; 2-807; 1-5Y3G; 2-5U4G.

Relay Control: Arranged for complete remote control by relay over any distance desired. Individual control of filament and plate supply with plate supply energized only during actual operation.

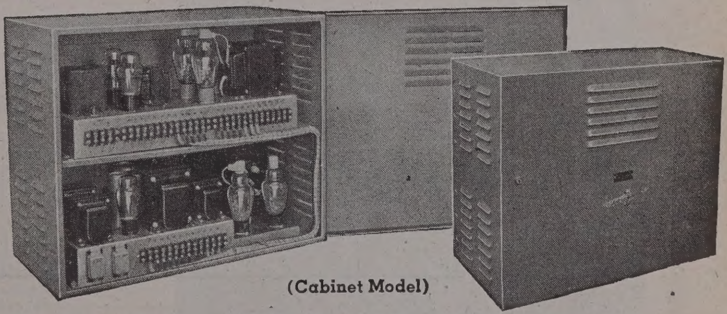
Power Requirements: 117 or 234 volts—50 to 60 cycles approx. 150 watts.



(Rack Model)

Cabinet: Wall mounting type, heavy gauge steel 20" wide x 14" high x 16" deep, gray wrinkle finish, with knockouts for conduit wiring. Complete with tubes. **Catalog No. 2050.**

Rack Panel Type: Mounted on standard 19" (width) rack panel 12¼" high, gray wrinkle finish. Complete with tubes. **Catalog No. 2051.**



(Cabinet Model)

Model 100B Rack or Cabinet 100 Watt POWER AMPLIFIER

Power Output: 100 watts, 5% distortion.

Input Impedance: 500 ohms.

Output Impedance: 500-250-166-125 ohms.

Tubes Utilized: 2-6A5G; 2-809; 2-866.

Relay Control: Complete remote control of AC Power. Plate power applied only during actual use. This insures longer life, reduced power consumption and cooler operation.

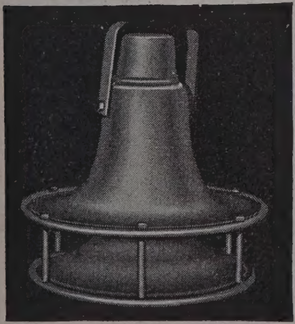
Power Source: 110-120 volt; 60 cycle AC.

Cabinet: Wall mounting type of heavy gauge steel. 24" long, 20" high, 13" deep. Gray finish with knockouts for conduit wiring. Complete with tubes.

Catalog No. 2100.

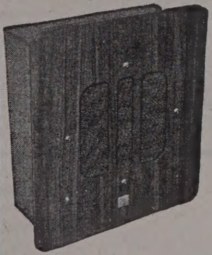
Rack Panel Type: Mounted on two standard 19" (width) steel rack panels each 12¼" high, gray wrinkle finish. Complete with tubes.

Catalog No. 2101.



Model J-26 radial reflex trumpet, generally preferred. Height 19", acoustic length 60". Cat. U-1088.

Model J-25—Reflex trumpet with acoustic length of 4½ ft. Overall length: 21"; bell diameter: 25" projection angle 90 degrees. Cat. U-1089.



Model 90-WS—An ideal speaker for auditoriums, cafeterias, offices, or other locations where a neat, attractively housed, wall-mounted unit is preferred. It contains a 12-inch, high fidelity, permanent magnet speaker with line matching transformer. It is capable of handling up to 10 watts of power with high fidelity reproduction. Its beautifully finished walnut-housing measures overall 19⅝" x 17⅞" x 8½". **Cat. No. U-1035.**

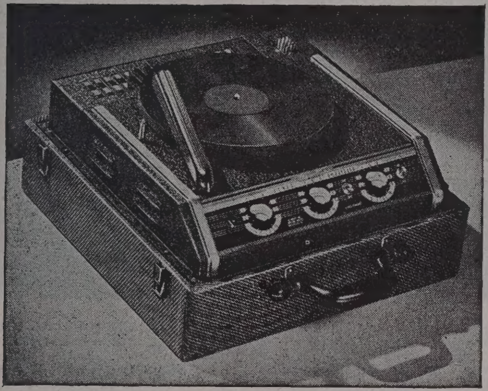
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

Erwood SOUND EQUIPMENT

Erwood MODEL No. 1420 — 20 WATT MOBILE PUBLIC ADDRESS SYSTEM



Designed and engineered by the originators of Mobile Public Address Systems, Model No. 1420 provides in simple compact equipment a dependable combination of 6-volt and 120-volt services. Primarily designed for mobile services, the ease with which this model may be transported makes it desirable for general public address applications.

APPLICATION: Suitable for outdoor crowds of 2,000 or more people, with corresponding greater indoor capacity. Suitable for civic celebrations, sports announcements, orchestral broadcasting, etc.

FEATURES: Will operate on either standard 120-volt A.C. power line or 6-volt storage battery. Facilities for one microphone. Self-contained record playing mechanism for phonograph record reproduction. Hum and other noises generally associated with mobile equipment have been eliminated by special Erwood extra shielding and filtration. High quality crystal pickup and noiseless rim drive turntable motor. Amplifier is equipped with 7 tubes operated well within manufacturers' ratings to eliminate tube trouble. Reproduction is excellent with ample capacity for extra power and stepped-up quality performance when required. Well designed ventilation. Accessibility has been stressed in this model.

AMPLIFIER SPECIFICATIONS

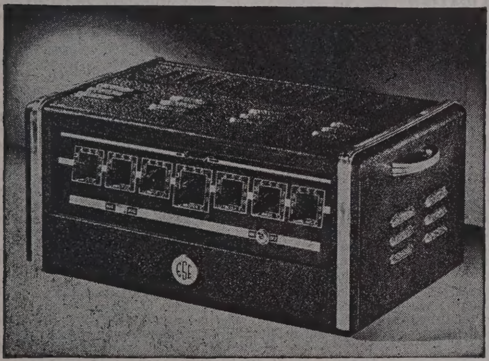
Power Output: 20 Watts. Gain: Microphone, 129 DB. Phonograph, 73 DB. Controls: One microphone, phonograph, tone control. ON and OFF switch, and a standby switch. Input: For one microphone. Tubes: Seven required, consisting of: 1—6J7; 2—6N7; 2—6L6; 2—6X5. Output Impedance: Four, Eight, Two Hundred Fifty and Five Hundred Ohms. Power Consumption: 130 Watts AC, 20 Amperes, DC. Dimensions: 16″ x 16″ x 12″. Shipping Weight: 42 lbs.

MICROPHONE: Because of particularly durable construction, Model 156C crystal microphone is included with these systems. Microphone has a wide frequency range, is sensitive over a wide angle of pickup. Particularly adapted to the rough usage of outdoor work and frequent handling. Frequency ranges flat output level,—62 DB. Microphone is furnished complete with 25 feet of RCS cable, plug and handle.

SPEAKERS: Two No. 120—12″ permanent magnet speakers are included with this system. The magnetic structure of these speakers uses 21 ounces of magnetic material. They have a power handling capacity of 10 watts per speaker. Speakers are furnished with 25 feet of cable and plug.

System 1420M comprises one 1420 high fidelity amplifier, one 1560 crystal microphone with 25 foot cable and plug and two 120—12″ permanent magnet speakers, with 25 foot cables and plugs. **List: $154.00.** Shipping Weight: 55 lbs. Code: SAGES. **Kit of matched tubes. List $7.80.** Shipping Weight: 2 lbs. Code: TABLE.

Erwood MODEL No. 3545 45 WATT AMPLIFIER



For the elaborate and exacting requirements of the "big installation," this system has been designed to embrace every modern improvement known to sound. In every respect it can be depended upon to meet every expectation.

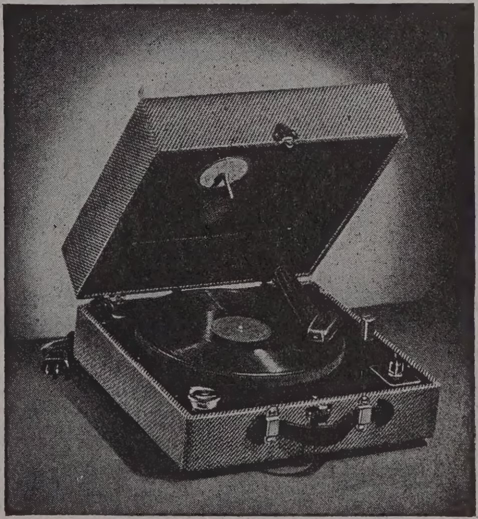
APPLICATION: Adopted to larger installations requiring multiple microphone, where the stage presentation covers considerable area—automatic volume control greatly improves the pickup of the system and helps to eliminate feedback. Will handle crowds up to 10,000 persons under the most adverse conditions.

FEATURES: Model 3545 amplifier combines automatic volume control for microphones, volume expansion for record reproduction, remote control for the three microphone positions permits monitoring the program from a remote position. High and low tone cmpensation permits adapting the equipment to troublesome acoustical conditions. Uses a new circuit with two power transformers, variable output impedance switch, locking type input plugs.

AMPLIFIER SPECIFICATIONS

Power Output: 45 Watts.
Gain: Microphone 130 DB. Phonograph 75 DB.
Controls: Three microphone volume controls, one master gain control, one combination volume control, one low frequency control, one ON and OFF switch.
Input Impedance: For microphones, two megohms; for phonograph, one-half megohm.
Tubes: Fourteen required, consisting of: 4—6J7G, 2—6N7G, 1—6L7G, 1—6F6G, 1—6H6G, 2—6L6G, 1—5U4G, 1—83.
Output Impedance: Four, Eight, Two Hundred Fifty and Five Hundred Ohms.
Current Consumption: 320 Watts.
Dimensions: 8¾″ x 11″ x 18″.
No. 3545—Amplifier Only.......................................List $132.50
Shipping Weight: 55 lbs. Code: APPLE.
Kit of matched tubes for Model 3545 Amplifier.
List: $12.85. Shipping Weight: 4 lbs. Code: TUBES.

Erwood MODEL No. 101 PHONOGRAPH UNIT



Model No. 101 phonograph unit is a record playing device for either ten or twelve inch phonograph records and it comprises a 78 R.P.M., rim drive phonograph motor with a ten inch flock covered turntable. The phonograph pickup is of the off-set arm type with a crystal cartridge. Output for 500,000 ohm load.

The equipment also includes a six foot power cord, a six foot shielded input cord and a gain control with an attached ON and OFF switch. The entire assembly is enclosed in an attractive portable case with a tweed covering. Dimensions 7″ x 13″ x 13″. Shipping Weight 13 lbs. **List Price: $29.50.** Code: PHONO.

Erwood SOUND EQUIPMENT

Erwood MODEL No. 1312 — 12 WATT PORTABLE PUBLIC ADDRESS SYSTEMS

Styled like aeroplane type hand luggage this low priced system is distinguished for its superb reproduction. Ample reserve capacity provides "big-system" volume without over-load, distortion or blasting.

APPLICATION: Adapted to smaller installations of not over 1000 persons in such places as assembly halls, churches, night clubs, bingo games, funeral parlors, etc. Exceptionally fine record reproduction is possible when used with our No. 101 record player.

FEATURES: Model No. 1312 is a portable system contained in a compact and durable carrying case with a heavy tweed covering. Ample space is provided for substantially mounting the speakers, amplifier, microphone, all cables, and a full length floor stand. The same precision and care has been exercised in the manufacture of this equipment that is so evident in our larger and more expensive equipment.

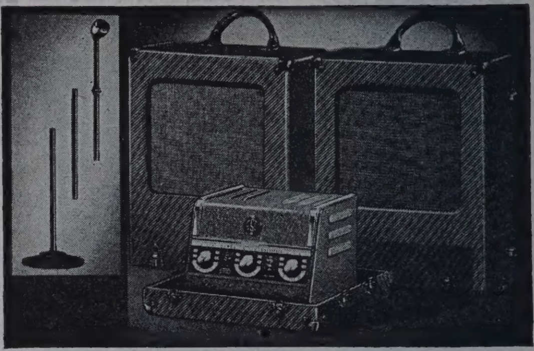
AMPLIFIER SPECIFICATIONS

Power Output: 12 Watts. Gain: Microphone 119 D.B. Phonograph 75 D.B. Controls: One microphone, one phono, one tone control and ON and OFF switch. Provision is also made for remote control of microphone volume. Input Impedance: Two megohms for microphone and one-half megohm for crystal pickup. Tubes: Five required, consisting of: 1—6J7G; 1—6Y7G; 2—6V6G; 1—5V4G. Output Impedance: 3-4 and 6-8 ohms. Power Consumption: 86 Watts. Dimensions: 7" x 8" x 11". Amplifier is equipped with 6 ft. A.C. cord and plug.

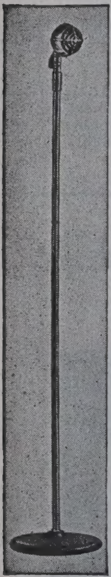
MICROPHONE: Model 150-A is a streamlined high impedance crystal having an output of —52 D.B. The response is free from objectionable peaks or dips. The crystal cartridge is cushion mounted to prevent floor and stand noises in reproduction. Finish is a beautiful gray and chrome combination. The microphone is furnished complete with floor stand and 25 feet of SRC cable and plug.

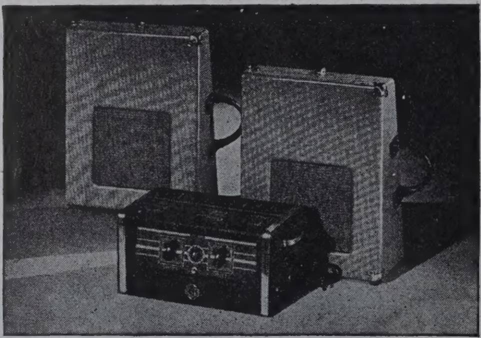
SPEAKERS: Two 8-inch permanent magnet type speakers complete the system. They have a speaker voice coil diameter of 1 inch. The magnetic structure contains 14 ozs. of magnetic material per speaker. Both speakers are equipped with 25 feet of rubber covered cable and plug.

Model 1312-PC comprises complete portable system, consisting one Model 1312 Amplifier, one Model 150-A Crystal Microphone with floor stand and 25 feet of cable, two Model 108 Permanent Magnet Speakers with 25 feet of cable and plug, and one Model C-3 Portable Carrying Case. **List Price: $112.80.** Shipping Weight: 55 lbs. Code: PACKS. **Model 1312 Amplifier only,** less tubes. **List Price:** $41.50. Shipping Weight: 22. lbs. Code: ABASE. **Kit of Matching Tubes: $6.00.** Shipping Weight: 2 lbs. Code: TABOO.



Erwood MODEL No. 2418 18 WATT PORTABLE PUBLIC ADDRESS SYSTEM





Model 2418-P2C is a complete system comprising a 2418 amplifier less tubes, two No. 151A microphones with cords, plugs and floor stands, two No. 120 permanent speakers with cords and one No. C4 portable carrying case. **List Price: $208.00.** Shipping Wt.: 78 lbs. Code: PORTS.

Model 2418-P1C. Same as above except with one microphone and one stand. **List Price: $163.50.** Shipping Wt.: 67 lbs. Code: POOLS. Kit of extra sound tubes, for Model 2418 amplifier. **List Price:** $8.20. Shipping Wt.: 2 lbs. Code: TALCS.

Model 2418. Amplifier only, less tubes. **List Price: $56.00.** Shipping Wt.: 31 lbs. Code: ABYSS.

● Dual Speakers ● One or Two Floor Stands and Microphones ● Remote Control (Optional) ● Edge Illuminated Non-Breakable Dial ● Single Case Construction.

APPLICATION: For all temporary or semi-permanent installations, most particularly adapted to traveling orchestras, road shows, religious activity and other applications for crowds up to 3000 persons.

AMPLIFIER: Is a model 2418—18 watt power amplifier of exceptional range and power handling capacity. Two microphones can be used simultaneously with perfect control over each microphone. The gain of the amplifier is sufficient to (129 DB) effect pickup by the microphone over a wide area. A tone control permits modification of the reproduction to meet local conditions. Controls are located on a beautiful edge illuminated non-breakable dial which is easy to see in a dark room. The amplifier is of substantial construction housed in an attractive steel case finished in deep maroon, and chrome trimmed.

MICROPHONES: Model 151A uni-directional microphones are furnished with this system. Their excellent frequency characteristic extends from 30 to 10,000 cycles, and while very sensitive to the front, are relatively insensitive to sounds from the rear, a characteristic which is highly desirable for public address installations. Each microphone is furnished with 25 feet of special shielded cable and polarized plug. The head is tilting and is finished in satin chrome. Microphones are furnished with a three piece sectionalized floor stand.

LOUD SPEAKERS: This system is furnished with two model 120 permanent magnet speakers having a diameter of 12 inches and a power handling capacity of 12 watts. The voice coil and cone structure is particularly adapted to the baffles to which they are mounted. Each speaker is provided with 25 feet of rubber covered cable and polarized plug.

PORTABLE CARRYING CASE: The Model C4 portable carrying case is of three piece construction, the lower section functioning as a compartment for carrying the amplifier. The upper sections are of trapezoidal construction and contain the speakers, microphones and microphone stands. In which use, they function as the loud speaker baffles and provision is made for securing them to the wall.

Erwood MODEL No. 3428 28 WATT AMPLIFIERS

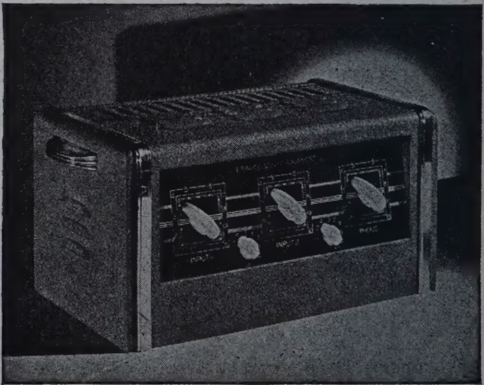
Housed in a metal cabinet of unusual beauty, this new design exceeds its rating by a substantial margin. This increased margin guarantees high quality performance without distortion at levels considerably in excess of the rating. The three inputs accommodate two microphones and a phonograph. In our opinion, this amplifying system will be most talked about because of its unusual dynamic range and tone quality.

APPLICATION: A well-balanced engineered system capable of exceptional performance. Well adapted to use in auditoriums, theatres, schools, churches and other public gathering places. Provides perfect reproduction for audiences of 4000 or for auditoriums of 1,000,000 cubic feet.

FEATURES: Model 3428 amplifier permits the use of two microphones and a phonograph input in a multiple mixing circuit. Extra refinement in circuit design reduces noise and hum to new low levels only attained in expensive recording amplifiers. Provision is incorporated for the use of a two-position remote control unit. Two tone controls permit perfect balancing of reproduction to auditorium requirements.

AMPLIFIER SPECIFICATIONS

Power Output: 28 Watts. Gain: Microphone 130 DB. Phonograph 75 DB. Controls: Two microphone volume controls, one phonograph volume control, one high frequency control, one low frequency control, and an ON and OFF switch. Remote control attachment optional. Input: Two, two-megohm for microphones and one-half megohm for phonograph. Tubes: Eight required, consisting of: 2—6J7; 2—6C5; 2—6L6; 1—5V4; 1—6N7. Output Impedance: Four, eight, two hundred and fifty and five hundred ohms. Current consumption 125 Watts. Dimensions: 8" x 9½" x 14½".



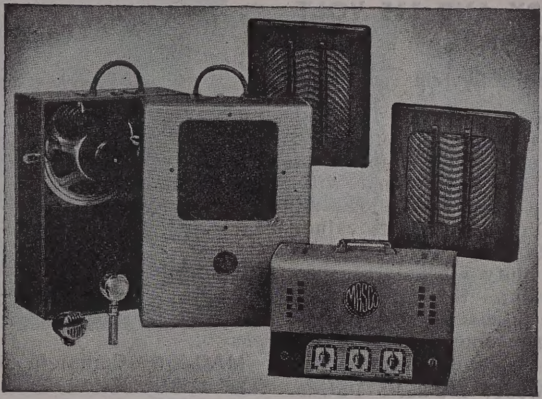
No. 3428 amplifier only, less tubes. **List: $75.00. Shipping Wt.:** 38 lbs. Code: ABBEY. **Kit of matched tubes for Model 3428 amplifier. List: $8.55. Shipping Wt.: 2 lbs. Code: TABBY.**

SOUND SYSTEMS

MASCO 17 WATT PORTABLE OR PERMANENT SOUND SYSTEM

FEATURES

- Tapped Output, 2-4-8-15-500 Ohms
- Beam Power Output (2—6L6G)
- Electronic Mixing Overall
- Aero-dynamic Design
- Full Range Controls
- Individual Controls
- Inverse Feedback
- 24 Hour Operation
- Custom Made



APPLICATION

These systems are highly efficient and afford outstanding results to meet requirements for medium power installations. For coverage up to 175,000 cubic feet. Microphone and Phono may be used simultaneously through the use of separate controls. Hum and noise have been reduced to a negligible level through correct design and filter.

Ease of setup and operation, plus maximum output and excellent tonal quality are the salient features of these systems. The amplifier chassis is finished in a hard baked smooth gray wrinkle. Chrome and red trim are added to enhance the rich appearance. The carrying case is styled after the finest aeroplane hand luggage with tweed facings and calf skin tan overall striping. The interior of the case is designed to hold the complete system and accessories. Amplifier is mounted on sliding panel for ease in removing from case when in use.

Specifications for Model MA-17 Amplifier: Power Output: 17 Watts • Gain: Microphone 118 DB, Phono 74 DB • Controls—Three: Microphone, Phono, Tone • Separate on-off AC Switch • Input—Two: Microphone and Phono • Tubes: 1—7C7, 1—7F7, 2—6L6GA, 1—5Y3GT • Output: Tapped—2-4-8-15-500 Ohms • Power Consumption: 90 Watts • Hum Level: Below Zero Level—22DB • Frequency Response: 50 to 10,000 cycles • Dimensions: 12″ x 6¾″ x 7¾″.

PORTABLE SYSTEM

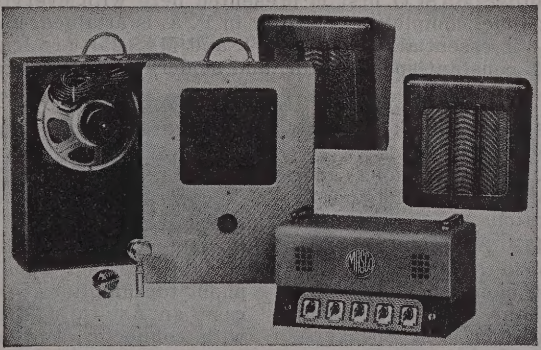
The MAS-17 complete portable system consists of: Model MA-17 amplifier less tubes, mounted in carrying case. An Astatic JT-30 Microphone with 25' cable with connectors, two 10″ PM speakers each with 25 ft. cable plus plugs.

	List Price
MAS-17—Complete portable system as described	$97.50
MAS-17—Complete portable system, same as above but with Astatic T-3 Microphone	106.50
MA-17 —Amplifier less tubes, with streamline cover	42.50
Kit of MATCHED tubes	8.00
Model 304—Portable amplifier case only. Case dimensions: 14½″ wide, 13″ deep, 18″ high	16.50
No. 102—10″ walnut speaker cabinet	6.25
If Astatic JT-30 Microphone is not desired, deduct	12.50

MASCO 25 WATT PERMANENT OR PORTABLE SOUND SYSTEM

FEATURES

- Output Tapped, 2-4-8-15-500 Ohms
- Two Microphones and Phono
- Electronic Mixing Overall
- Beam Power 6L6 Output
- Undistorted 25 Watt Output
- Triple Channel Inputs
- Inverse Feedback
- **24 Hour Operation**
- Custom Made



MASCO offers industrial streamlining and extra refinement in circuit design, imperative in modern sound equipment. Model MA-25 permits use of two microphones and phono in a multiple mixing circuit. Output is tapped to match any speaker or speaker groups. Humless operation plus fine tonal quality at high level output are only a few of its outstanding features. Richly appointed carrying case of two-tone tan calf and tweed. Amplifier is finished in attractive gray baked crystal with red and chrome handles, dial plate and trimmings. Accessories housed within carrying case. Amplifier mounted on sliding panel for ease in removing from case when in use.

Amplifier Specifications for Model MA-25: Power Output: 25 Watts • Gain: Microphone 125 DB, Phono 78 DB • Controls—Four: Two Microphones, Phono, Tone • Separate On-Off Switch • Input—Three: Two Microphones, Phono • Tubes: 2—7B4, 1—7F7, 1—7N7, 2—6L6GA, 1—5U4G • Output: Tapped—2-4-8-15-500 Ohms • Power Consumption: 120 Watts • Hum Level: —55 DB below 25 Watts • Frequency Response: 50 to 10,000 Cycles • Dimen: 15″ x 8″ x 8″.

Portable System: The MAS-25 complete system consists of: Model MA-25 amplifier less tubes, mounted in carrying case as described. Astatic JT-30 Microphone with 25 ft. cable with connector, two heavy duty 12″ PM Speakers, each with 25 ft. cable plus plugs.

	List Price
MAS-25—Complete portable system as described	$116.50
MAS-25—Complete portable system same as above but with Astatic T-3 Microphone	125.50
MA-25 —Amplifier less tubes, with streamline cover	60.00
Kit of MATCHED tubes	11.00
Model 305—Portable amplifier case. Case dimensions: 23″ high, 15″ deep, 18½″ wide	20.00
No. 101—12″ Walnut Speaker Cabinet	8.00
If Astatic JT-30 Microphone is not desired, deduct	12.50

Please Note: When desiring combination of equipment other than listed herein, write for further details. All specifications, prices, etc., mentioned herein are subject to change without notice. West of the Rockies add 5% to above prices.

SOUND SYSTEMS

25 WATT UNIVERSAL PHONO-TOP MOBILE SYSTEM . . . FOR BATTERY AND 115 VOLT AC OPERATION

Model MAC-25P Mobile System

Amplifier Features: Model MC-25P 6 volt DC and 115 volt AC amplifier is a high-powered De Luxe Unit that is applicable to all uses for outdoor sound. Provisions for two microphones and phono-input with independent controls along with universal speaking matching of 2-4-8-15 and 500 Ohms, add to its value. The MASCO battery saver "stand-by" switch is also incorporated. The extra-heavy duty vibrator assures a 75% overload safety factor, and through its use steady voltage and frequency is maintained. A primary feature is the Ripple-Free operation; chassis finish is attractive gray with red and chrome trim.

Amplifier Specifications for Model MC-25P: Power Output: 25 Watts • Gain: Microphone, 125 DB; Phono, 78 DB. • Controls—Four: Two Microphones, Phono, Tone • Switches: On-off AC, On-off Phono Motor, Stand-by Battery Saver Switch • Input—Two: Microphone and Phono • Tubes: 2—7B4, 1—7F7, 1—7N7, 2—6L6GA, 1—5U4G • Output: Tapped —2-4-8-15-500 Ohms • Power Consumption: AC 120 Watts, 6 Volts DC 22 Amps • Hum Level: Ripple-Free on Battery — 55 DB below 25 Watts • Frequency Response: 50 to 10,000 cycles • Dimen: 12" x 10" x 8".

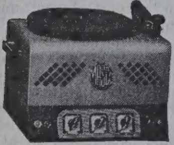
Portable System: The Model MAC-25P complete portable system consists of: Model MC-25P Phono-top amplifier less tubes, mounted in carrying case of attractive two-tone tan and brown. One Astatic JT-30 Microphone with 25 ft. cable with connector, two heavy-duty 12" Speakers with 35 ft. cable and plugs.

	List Price
MAC-25P—Complete portable system as described	$160.00
MAC-25P—Complete portable system as above but with Astatic T-3 Microphone	169.00
MC-25P—6 volt DC and 115 volt AC phono-top amplifier less tubes	106.00
MC-25—6 volt DC and 115 volt AC amplifier less tubes, with plain cover	90.00
Kit of MATCHED tubes	11.00
Model 305—Portable amplifier case, 23" high, 15" deep, 18½" wide	20.00
Model 402—12" all steel non-resonant baffle	13.50
If Astatic JT-30 Microphone is not desired, deduct	12.50
NOTE: If amplifier with plain cover is desired with above system deduct	15.00

NOTE: If the above amplifier systems are desired as Outdoor Systems, deduct the List Prices of the Amplifier Case and add the List Price of two No. 402 baffles.

DE LUXE PHONO-TOP P. A. EQUIPMENT (AC)

Features and Application: Another MASCO first is presented here with everything that is desirable in portable systems. Now for the first time, complete portability in P. A. is attained. Especially adaptable where combined P. A. and recorded music is essential. The MAS-17P and MAS-25P are leaders in their respective fields. Both equipped with a 78 R.P.M. constant speed motor, and modern Astatic tanget head crystal pickup.



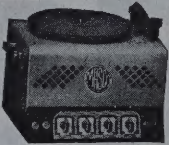
Model MAS-17P System

Amplifier Specifications: Chassis size for Model MA-17P, 12" x 10" x 8". All other specifications same as Model MA-17. (See Page C-29 for specifications.)

Portable System: The MAS-17P complete portable system consists of the following: Model MA-17P phono-top amplifier, less tubes, mounted in carrying case, an Astatic JT-30 Microphone with 25 ft. cable with connector, two heavy duty 10" PM Speakers, each with 25 ft. cable plugs plugs.

	List Price
MAS-17P—Complete portable system as described	$116.00
MAS-17P—Complete portable system same as above but with Astatic T-3 Microphone	125.00
MA-17P—Amplifier with phono-top cover, less tubes	62.50
Kit of MATCHED tubes	8.00
Model 304—Portable amplifier case: 14½" wide, 13" deep, 18" high	16.50
If Astatic JT-30 Microphone is not desired, deduct	12.50

Permanent Installation: NOTE: If Model MA-17P Phono-top amplifier is desired as a permanent system (see page C-29 under MAS-17 listing), deduct list price of MA-17 amplifier from system and add list price of MA-17P amplifier.



Model MAS-25P System

Amplifier Specifications: Chassis size for Model MA-25P, 12" x 10" x 8". All other specifications same as Model MA-25. (See Page C-29 for specifications.)

Portable System: The Model MAS-25P complete portable system consists of: The Model MA-25P phono-top amplifier, less tubes, mounted in carrying case, an Astatic JT-30 Microphone with 25 ft. cable with connector, two heavy duty 12" PM Speakers, each with 25 ft. cable with plugs.

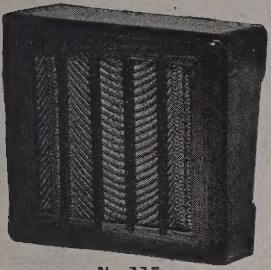
	List Price
MAS-25P—Complete portable system as described	$132.50
MAS-25P—Complete portable system same as above but with Astatic T-3 Microphone	141.50
MA-25P—Amplifier with phono-top cover, less tubes	76.00
Kit of MATCHED tubes	11.00
Model 305—Portable amplifier case: 23" high, 15" deep, 18½" wide	20.00
If Astatic JT-30 Microphone is not desired, deduct	12:50

Permanent Installation: NOTE: If Model MA-25P Phono-top amplifier is desired as a permanent system (see page C-29 under FAM-25 listing), deduct list price of MA-25 amplifier from system and add list price of MA-25P amplifier.

WEST OF THE ROCKIES ADD 5% TO ABOVE PRICES

SOUND ACCESSORIES

DE LUXE WALNUT SPEAKER CABINETS



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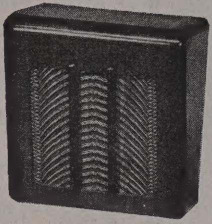

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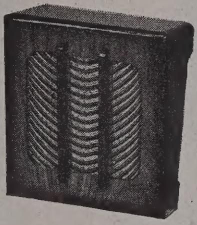

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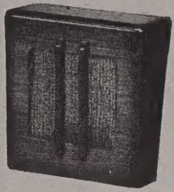

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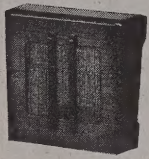

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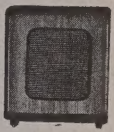


No. 105

Uniformity throughout has been the keynote of our design in bringing you the new "MASCO" DE LUXE line of walnut speaker cabinets. Ranging in size from 5″ to 15″. All "MASCO" cabinets are designed primarily from the standpoint of accoustical efficiency, however, one look at the STURDY CONSTRUCTION, will convince you that in endeavoring to attain the highest accoustical standard we did not SACRIFICE BEAUTY. We call your attention to the GROOVED back on all cabinets which releases air pressure or back lash. These cabinets will not resonate or rattle at high volume due to their STURDY CONSTRUCTION.

15" Model No. 115—MASCO Super Quality Walnut Speaker Cabinet

Made to accommodate a 15″ speaker.Made of choice Walnut Veneer. Heavily constructed and reinforced throughout. Slope front and attractive grille bars add to the beauty of this cabinet. Size: 18″ high, 18″ wide, 10¾″ deep. Supplied with hardware for mounting speaker. **List Price** **$12.50**

12" Model No. 101—MASCO De Luxe Walnut Speaker Cabinet

Made to accommodate a 12″ speaker. Beautiful WALNUT finish. Constructed to permit correct release of speaker pressure. Slope front and attractive raised grille bars. Size: 14″ wide, 15½″ high, 9½″ deep. Supplied with hardware for mounting speaker. **List Price, $8.00**

10" Model No. 102—MASCO Superior Quality Walnut Speaker Cabinet

For installation where the finest type of equipment is required. Has slope front with raised grille bars. Made to accommodate a 10″ speaker. Size: 12″ wide, 13½″ high, 7½″ deep. Supplied with hardware for mounting speaker. **List Price, $6.25**

8" Model No. 103
MASCO Standard Wall Cabinet

To house 8″ or 9″ speakers. Handsome WALNUT finish. Raised grille bars. Slope front. Sizes: 10″ wide, 11½″ high, 7¼″ deep. Supplied with hardware for mounting speaker. **List Price** **$5.00**

6" Model No. 104
All Purpose Wall Cabinet

To house 5″ and 6″ speakers. WALNUT finish. Slope front with raised grille bars. Size: 7½″ wide, 9″ high, 5½″ deep. Supplied with hardware for mounting speaker.

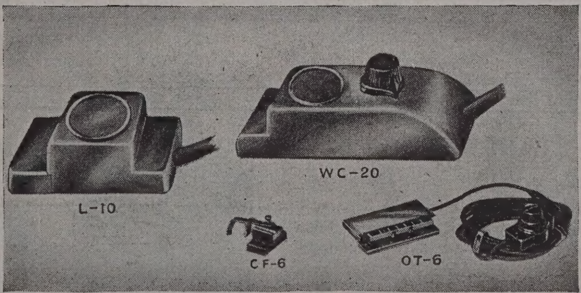
List Price **$4.00**

5" Model No. 105—MASCO General Purpose Walnut Cabinet

Front and back grilles, finished in two tone walnut and black trim. Made to fit any standard 5″ speaker. Used in PA or Inter-Office communication. Rubber bumpers are supplied at base of cabinet to prevent marring. Size: 6¼″ wide, 6½″ high, 4″ deep. Supplied with hardware for mounting speaker and back cover. **List Price** **$3.75**

MUSICAL CONTACT MICROPHONES

- Ease of Installation
- Operates with All Instruments
- Operates with Most Modern Radios
- Will Not Mar Surfaces
- Operates with All Makes of Ampifiers
- Mellow Rounded Tone



"MASCO Musical Microphones" are designed for use with ANY musical instrument. They operate by being placed in contact with the body of the instrument and receiving vibrations from the instrument when it is played. The resulting brilliance of tone far exceeds the power of the instrument alone. MASCO MUSICAL MICROPHONES may be slipped on in a moment, and require no special strings or instrument changes.

Models Nos. WC-20 and L-10

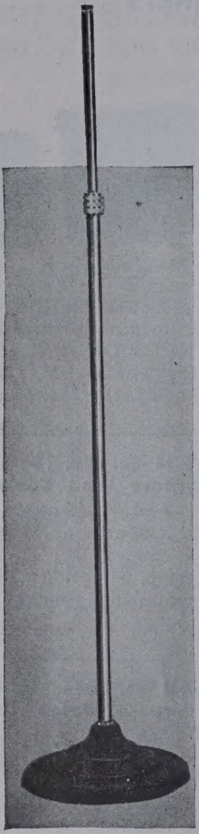
Features: Twelve model L-10 less volume control, with 15 ft. of cable each, may be connected in parallel and plugged into one input, while five model No. WC-20 with volume control and 15 ft. of cable each, may be paralleled and connected to one input. Both models are ideal for use as a pickup for disc and film recording. Use of them in this manner eliminates background noises usually encountered with regulation microphones. They are also well adapted for use as vibration testers for machinery, mechanical devices, etc.

	List Price
WC-20—With volume control and 15 ft. cable....	$12.00
L-10—Less volume control, with 15 ft. cable......	9.00
If any of the above units are desired with chromium metal plugs, add **List**	1.25

WEST OF ROCKIES ADD 5% TO ABOVE PRICES : : : PRICES SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: The Models OT-6 and CF-6 are temporarily discontinued.

SOUND ACCESSORIES



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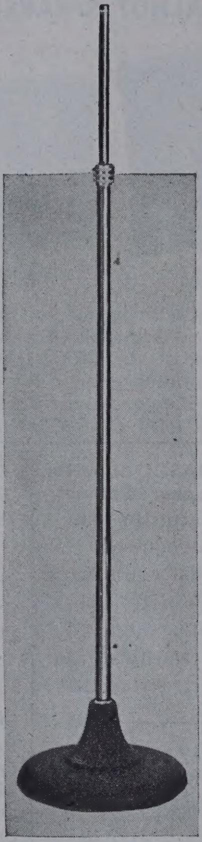

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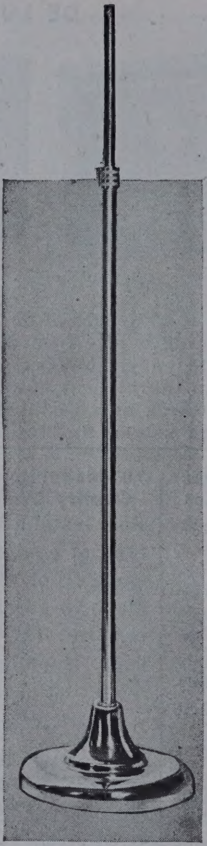

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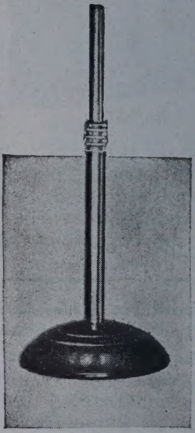


4A

MASCO DE LUXE MICROPHONE STANDS

All "MASCO" microphone stands are made of seamless extra heavy gauge brass tubing throughout. Assuring dependability and service, also eliminating rust and corrosion. These stands are heavily chrome plated to insure long and lasting wear.

The "EVER SILENT" friction clutch will never wear out due to the exclusive MASCO hardened fibre bushing, which is incorporated into both the clutch and telescope sections of the ⅞" tube. Easily adjusted with one hand and stays "PUT".

MASCO'S NEW GRIP TIGHT, STAY-FAST LOCKING CLUTCH prevents disturbing adjustment noises when amplifier is working.

MASCO DE LUXE stands have standard ⅝ x 27 thread, for all types and makes of microphones. Standard height: 35" to 68".

Model No.	Base Finish	Tube Finish	Base Diameter	Height	Weight Lbs.	List Price
7	Black Crackle	Chromium	10"	35" to 68"	10½	$ 7.00
8	Black Crackle	Chromium	10"	35" to 68"	11½	8.50
9	Chromium	Chromium	10"	35" to 68"	11½	10.00
9A	Chromium	Chromium	10"	35" to 68"	18	12.50

NOTE: Models Nos. 8, 9 and 9A, have felt screwed in bumpers to prevent marring of floors.

BANQUET STANDS

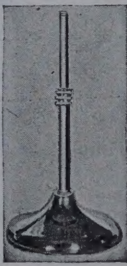
For your convenience in PA applications, MASCO offers the following types of banquet stands:

All tubing made of extra heavy gauge brass, heavily **chrome plated.** All models have felt screwed in bumpers to prevent marring of desk or table.

All models are available in chromium or black crackle finish, on both the adjustable or or fixed type stands.

The adjustable models, Nos. 6 and 6A, use the "EVER-SILENT clutch.

The models Nos. 4 and 4A, use the same type of tubing and "EVER-SILENT" friction clutch as used on the floor stands. Bases may be had in gray crackle with contrasting red circle, or in all chrome.



Model No.	Type	Base Finish	Base Diameter	Height	Weight Lbs.	List Price
4A	Adjustable	Gray	7"	18" to 32"	6	$6.50
6	Adjustable	Chromium	6"	10" to 15"	3	4.50
6A	Adjustable	Black Crackle	6"	10" to 15"	3	3.50
3	Fixed	Black Crackle	6"	9"	2½	2.25
3A	Fixed	Black Crackle	6"	12"	2½	2.50
5	Fixed	Chromium	6"	9"	2½	3.25
5A	Fixed	Chromium	6"	12"	2½	3.50

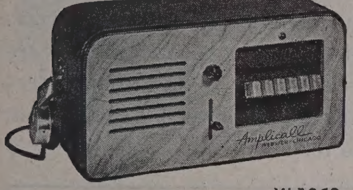
WEST OF ROCKIES ADD 5% TO ABOVE PRICES : : : PRICES SUBJECT TO CHANGE WITHOUT NOTICE

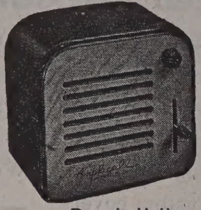
RAULAND-WEBSTER
DE LUXE TYPE

AMPLICALL

INTERCOMMUNICATION SYSTEMS

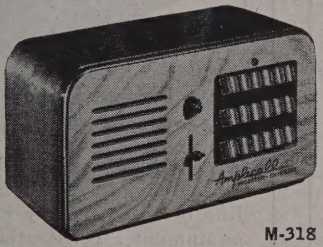
AMPLICALL HELPS SPEED UP AMERICA'S WAR EFFORT EVERYWHERE


W-106Q


Remote Unit

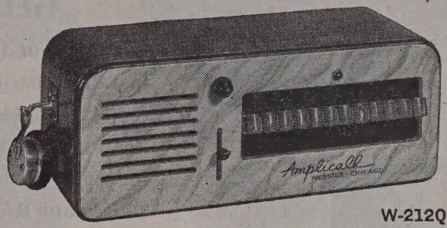
W-100 Series
Combination Masters and Remotes

The W-100 Series Systems are extremely versatile and are among the most popular Intercom equipment because of their ability to fill the greatest number of installation needs. These Systems provide instant 2-way communication between central or Master locations and a number of Remote locations—beginning with a 6-Station System to handle the popular demand for six or less stations—and also available in 12 and 18-station Systems designed to handle the expanded needs of larger installations. Masters may call any one or all other stations simultaneously. On single master installations remotes may call the one master but cannot talk to each other. On multiple master installations, remotes cannot originate a call. Compact Master station is beautifully housed in a streamlined cabinet of choice woods; Remote station is equally attractive. (To provide for complete privacy of conversation, models are also available with earphone attachment.)


M-318

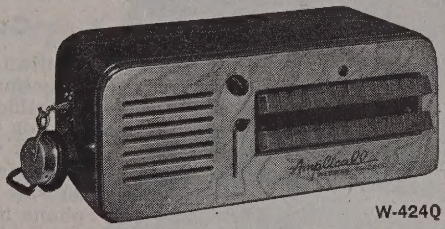
W-300 Series—Combined Intercom & Paging

Here is a System of great versatility and considerable power in which the central Master station can not only carry on a two-way conversation with each Remote station in the system, but can also page independently over any one remote station or over all Remote stations simultaneously. Remote stations can originate calls to Master. Maximum facilities of the W-300 System are for 18 Remote stations. Maximum power is 25 watts. Accurate station selection is accomplished by new type push-button selector switches. Master station is of beautiful, compact design; paging stations are metal-cased; Remote stations are of wood. The flexibility of the W-300 System makes it ideal for army barracks, rifle ranges, and similar military application as well as for wartime industrial use. Offers instant location of personnel through the "all call" paging feature.


W-212Q

W-200 Series—All-Master Systems

The W-200 Series, recognized as one of the most universal and advantageous of all Intercom Systems, consists entirely of Master stations. This Series permits every station of the system to call and converse at will with every other station. All conversations are absolutely private—there is no cross-talk or eavesdropping possible. Each Master has a 3-position "talk-listen" switch: depress to talk; returns automatically to center position for listening; raise to "up" position when carrying on long conversation or dictation, or when using earphone. When earphone is used, it is not necessary to operate "talk-listen" switch; conversation is carried on same as on a telephone instrument. The W-200 Series is available in two models—Systems for 12 or for 24 stations. Units are fashioned of beautiful two-toned walnut and birch in modern design.


W-424Q

W-400 Series
All Combination Hi-Power Systems

Here is the very latest in deluxe Intercom equipment. Master stations can be combined with Remote stations in practically any combination; all conversations between Masters are absolutely private; Masters can listen in on Remote stations; Remote stations are able to originate a call to as many as six Master stations. New features include: two volume controls for both incoming and outgoing volume; individual locking type, finger-tip push-buttons selectors; 3-position "talk-listen" switch, etc. There can be no eavesdropping or cross-talk on Masters; multiple Master conversations are absolutely private. Models are also available with earphone attachment for extra privacy. Compact station units are streamlined modern, in two-tone birch and walnut. W-400 Series Systems are available in two models—for 12 or for 24 stations.

PRICES AND DISCOUNTS QUOTED ON REQUEST

There is a Rauland-Webster AMPLICALL Intercom System for every type of installation. AMPLICALL speeds up office and plant routine—saves time, steps, and money—plays a vital role in the war effort. Write for complete catalog giving full details. (See other side of page for information covering the complete line of Webster-Rauland Amplifiers, Sound Systems, Factory Paging units, Power Stages, etc.)

RAULAND - Webster Sound Division

The Rauland Corp.

SOUND EQUIPMENT FOR **Rauland** MILITARY AND INDUSTRIAL USES

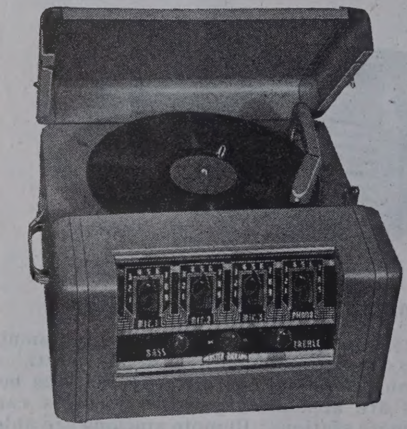
RAULAND - WEBSTER "TAILORED - TO - FIT" SOUND HELPS SPEED AMERICA'S WAR EFFORT

840 Watt Installation

Typical of Rauland-Webster Sound installations designed for war industry, is the 840 watt rack and panel Sound Unit (illustrated at left) built for a new government ordnance plant. This giant RAULAND System covers 30 square miles, and is used primarily for instant paging, for direction, and for emergency announcements.

Rauland-Webster Sound helps boost the output of wartime industries by providing instant communication; by preventing production tie-ups; by speeding the movement of materials; by protecting plants, providing instant warning against air-raids, fire, and sabotage; by improving morale with the provision of music during lunch and fatigue periods, etc.

Rauland-Webster will build "tailored-to-fit" Sound Equipment (on priority ratings available to industry) to meet any special requirement. Write for full details.



Mobile Amplifiers That Can "Take It"!

Rauland-Webster offers a selection of superb Mobile Amplifiers designed for operation from 117 volts AC or from 6 volts DC. The W-841 Amplifier (illustrated) has a 30 watt output; has 3 microphone inputs; one phono input; mixer-fader control on all 4 inputs (remote mixing on mikes); separate bass and treble controls; phono motor, crystal pickup, etc. The W-821 Amplifier has 20 watts output; includes 2 microphone inputs; one phono input; mixer-fader control on all three inputs; dual tone control; phono motor and crystal pickup.

There's a Rauland-Webster Amplifier for Every Need

Write for our Catalog No. 141 for full details covering a most complete selection of quality Sound equipment. There is a Rauland-Webster Amplifier available for every industrial requirement (paging, recreation, emergency alarms, etc.), for use by our Armed Forces, for experimental or laboratory use, etc. Rauland-Webster Deluxe Amplifiers are available in power outputs ranging from 14 to 60 watts, and can be had in a wide range of complete Systems from low-power portable Systems to the famous new BI-POWER High-Power Systems. The finest of 1942 features are embodied in each Rauland-Webster Amplifier to meet the most exacting requirements of wartime industry and business. No matter what your Amplifier needs may be, write for complete details. Ask for Catalog No. 141.

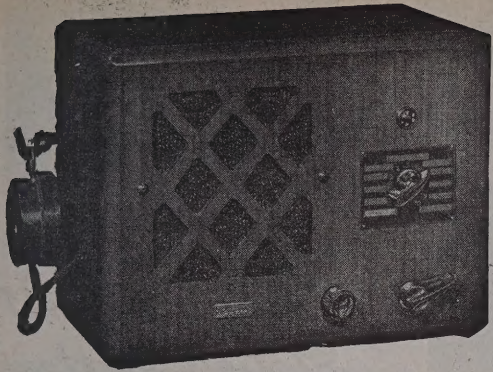
Rauland-Webster also offers a fine selection of Dynamic, Velocity, and Crystal Microphones, as well as a wide variety of high-quality Sound accessories, designed and built to render the dependable service demanded by today's rigid requirements. Write for complete descriptive literature.

New Deluxe Power Stages and Mixer Pre-Amplifier

Also available for industrial and similar applications is a new line of super-fidelity rack type equipment. Illustrated above are several of these Power Stages combined in a short rack cabinet. Illustrated at top is the W-4205 "Super-Fidelity" Mixer—Pre-Amplifier for 4 microphones (high or low impedance) and 2 phonos. The new W-4260 Bi-Power 60 watt Power Stages are mounted directly below the Mixer. An unlimited number of these stages may be used with the W-4205 unit. Write for complete details describing Rauland-Webster Power Stages and Mixer-Pre-Amplifiers.

PRICES AND DESCRIPTIVE LITERATURE FURNISHED ON REQUEST

The **Rauland** Corp. RAULAND - Webster Sound Division


510 Series Master to Master

"Tokfone"
Model 510—MASTER to MASTER SELECTIVE SYSTEM

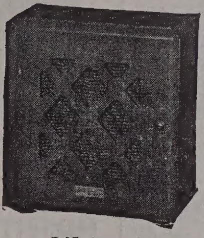
Use of Talk and Listen Switch Unnecessary

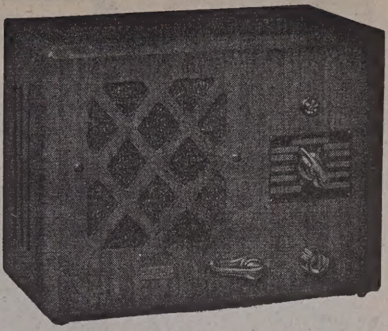
The Master System Model 510 has many new features to recommend it. Two-way private conversation between any two stations with a total selection of 10 stations is now possible. Every Master Station Model 510 is a veritable complete and private self-contained telephone switchboard! Just turn the selector switch to the station to which you wish to speak and you can carry on a private conversation. FIVE SEPARATE AND DISTINCT PRIVATE CONVERSATIONS CAN BE CARRIED ON SIMULTANEOUSLY.

The 510 System does not require the use of a "talk and listen" switch. Simply lift the phone to your ear and you can carry on a RUNNING CONVERSATION.

Master Station 510 comes complete with ear phone, selector switch, "on" and "off" switch, "talk and listen" switch, volume control. Cabinet of beautiful hand rubbed walnut. 50 feet of wire. Complete **$48.00**

SW 3 Wire Remote


141 Remote


141 Master

"Tokfone" Model 141 BEAM POWER SYSTEM

With 2 Watt Output. From 2 to 11 Stations with Selector Switch

Where efficient, economical and fast, direct two-way AMPLIFIED communication is desired between two or more persons of departments, this System is just the thing.

Model 141 TOKFONE Master station comes with selector switch, "on and off" switch, "talk and listen" switch, volume control, complete with one sub station and 50 feet of wire for only **$49.50**

The Model 141A illustrated may be used for extra stations, wherever needed. Each comes with 50 feet of wire. Each **$10.00**

The Model 141-S and 141-SW is exactly the same as the Model 141 and 141-A except that it comes equipped with a special switch on the right hand side of the Master and a special switch on the sub station. The Master Station and one sub station and 50 feet of wire complete is only.......... **$53.00**

TOKFONE Remote SW Station is used where additional Remote stations are needed for any 3 wire SW systems.. **$11.50**

Model 140

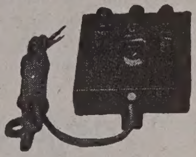
"Tokfone" WIRELESS SYSTEM

Works on A.C. or D.C.—No Wiring Necessary

The Tokfone Wireless Model 140 provides two-way communication between any two points without the necessity of laying wires between the units to be used. This arrangement makes the "140" desirable where it is impractical to do wiring. For example it is ideal for use in the home between the sick room and the kitchen, from the nursery and the living room, etc. Extreme portability is its chief claim to fame. Just plug each station into the nearest electric baseboard outlet and it's ready for use.

Comes in beautiful walnut cabinet equipped with "on and off" switch, volume control, "talk and listen" switch, jewel pilot light. Per pair.......... **$69.50**

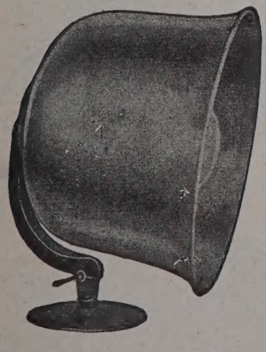
"Tokfone" REMOTE SWITCH CONTROL


Remote Switch Control

A highly practical, and efficient means of speaker control where the speakers are located on wall brackets, or mounted in some other position which is not easily accessible . . . up to distances of 15, 20 or 30 feet. Comes equipped with 6 feet of wire **$7.50**

"Tokfone" STORM-PROOF "MARINE MIDGET" P.M. SPEAKER

This new horn of inverted reflex design offers an air column length of 15" thus giving a maximum ratio of power input to sound pressure output. Features wide range frequency response and fine reproduction of voice. Because of complete weather and mechanical protection, dependable operation can be expected with a driving rain beating directly into the bell opening.

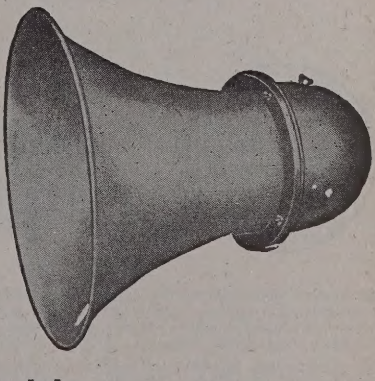


Constructed of heavy gauge aluminum. Battleship grey enamel finish.

Adjustable steel mtg. bracket at no extra charge. The P.M. Speaker unit has a conservative power rating of 5 watts. Overall size of horn: Bell 10", overall depth 8". Price...... **$24.50**

"Tokfone" TRUMPET

The exclusive design of Tokfone Trumpets increases theri strength and eliminates rain leakage at the seam where the 2 sections of the baffle are joined. The cone speaker is securely held in place with the same bolts that hold the baffle together. Extra mtg. bolts not needed.



Comes equipped with cadmium plated hardware and two mtg. loops for hanging. 6" SPEAKER, 15" bell opening, 10" length: overall length 15". All aluminum.

Price

$29.50

Add $2.00 for 220 Volts for all Models.

Copyright by U. C. P., Inc. **APPLY FOR DISCOUNTS**

TokFone
REG. U.S. PAT. OFF.

MASTER JR.

JR. REMOTE

"Tokfone" Jr.

HERE'S A LOW PRICED TWO-WAY SYSTEM FOR EXECUTIVES, PROFESSIONALS & HOME USE

MASTER WITH 1 REMOTE AND 50 FEET OF WIRE

TOKFONE, Jr. is an inexpensive but highly efficient two way communication system which can be used between any two remote points in an office, factory, or home.

TOKFONE, Jr. gives you instant personal contact between managers and their employees, between one department and another or from one room in the home to another.

TOKFONE, Jr. is attractive in appearance, simple to install and costs a trifle to operate. It is a thoroughly practical and proven product which will pay for itself over and over again in saving time, steps and anxiety.

TOKFONE, Jr. will be found indispensable for simplifying and speeding up office routine, interdepartmental contacts and will save the housewife many steps in keeping in touch with the kitchen, nursery, garage or other parts of the home. Complete **$27.50**

"Tokfone" Jr. S-W

TOKFONE, Jr. SW is optional equipment. Its use permits calling the master station from the outlying station. The arrangement is such, however, that the switch on the remote station must be operated to permit person called to answer the call from the master station. It also keeps the remote station in quiet position, and the master station at all times can call the remote station.

This system complete with switch on remote station only, and 50 ft. of triple twisted wire **$30.50**

142 SERIES REMOTE

MASTER 142 SERIES

"Tokfone"-2-11 Station System

MODEL 142-EA

THE IDEAL SYSTEM FOR HOTEL PAGING, HOSPITALS, DEPARTMENT STORES, FACTORIES, OFFICE SUITES, FOR DIRECT 2-WAY AMPLIFIED COMMUNICATION

COMPLETE WITH SELECTOR SWITCH

The most efficient, economical, and fastest means of holding direct, two way, amplified communication between two or more persons or departments. Complete 2-way system comprising one Model 142-EA, one Model 142-E and 50 feet of wire. Complete........................... **$49.50**

MODEL 142-EA and MODEL 142-E comprise a complete two way system. Additional sub-stations up to ten units can be added to the Tokfone system. This is the only communication system having this many stations; also on each sub-station 4 speakers may be connected in series parallel, giving you a total of forty direct stations which no other communication system affords. Master comes equipped with Earphone. Works on AC-DC current. Communication between master station and any remote station in which any remote station can call the master, and the master is the only one that can call all remote stations separately or altogether. EXTRA STATIONS with 50 ft. of wire.................................. **$10.00**

"Tokfone" Model 143 & 143-A

Is exactly the same as Model 142-EA—except that it does not come equipped with earphone. Model 143 and 143-A come complete with master sub station and 50 feet of wire.......................... **$47.50**

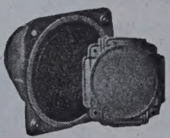
"Tokfone" Model 143-S — 143-SW

Is exactly the same as Model 143-143A except that it comes equipped with special switch on the right hand side of the Master and a special switch on the sub station, complete with master, sub station and 50 feet of wire... **$50.75**

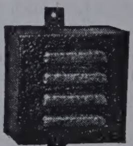
"Tokfone" Model 142-EA SW

Switches on both master and sub station. Is optional equipment and its use permits calling the master station from the outlying station. The arrangement is such, however, that the remote switch need not be operated to permit the person called to answer questions to the master station. It also keeps the remote station in a quiet position but the master station at all times can call the sub station. This system complete with switch on master and remote station and triple twisted wire **$53.00**

Every Home Needs the Protecton of the Amazing "Talking Door"


SP-3 REMOTE

TALKING DOOR "MASTER"


BX-3 REMOTE

A modern convenience for every home which permits a two-way conversation to either the front or rear door from the kitchen or other convenient location. Keeps out undesirables such as promotion salesmen, solicitors, time wasters—even kidnappers.

No need to "go to the door" and stand in the draft of an open door. Small initial cost, easy installation and low operating cost make this a necessity in every home. Consumes no current except when in use. Comes complete with 1 station and 50 ft. of wire ready to install. May be had with either Model BX3 in black crackle finish for mounting outside of door or Model SP3 for mounting inside of door.

Talking Door with one Remote complete........................ **$24.95**

Additional units of BX3 or SP3 for another door **$10.00**

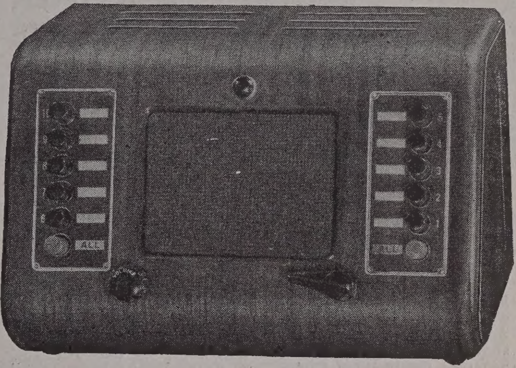
LICENSED, by agreement with Electrical Research Products, Inc., UNDER PATENTS OWNED OR CONTROLLED BY WESTERN ELECTRIC CO., and AMERICAN TELEPHONE AND TELEGRAPH COMPANY.

TokFone REG U S PAT OFF **DeLuxe**

INTERCOMMUNICATION SYSTEM

Model 743S Master and 743W Remote Unit

List Price $69.50



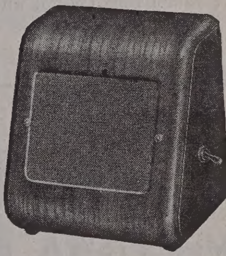
The TOKFONE DeLuxe represents the culmination of many years' experience in the manufacture and sale of Intercommunication Systems. It is by far the most efficient, most economical and the fastest means of carrying on direct, two-way, amplified intercommunication between two or more persons, offices or departments.

The basic system comprises one DeLuxe Master Unit (top) and one DeLuxe Remote Station (bottom), although Additional Remotes may be added (to the total of 10) to meet the specific requirements of any business.

The DeLuxe System utilizes PUSH BUTTON CONTROL. By simply pressing one button on either side you automatically connect the circuit between the Master and any one Remote. Two-way conversation is made possible by means of the talk-listen key.

The flexibility of this unit may be judged by the fact that when set up for its maximum communication possibilities, 10 Remote stations may be connected to the Master. These are arranged in two groups of 5 each. The Master may call one single station in **either** group or one station in each group at the same time or may call and converse with all 5 Remotes in either group or all 10 Remotes in both groups at one time. If desired, any Remote can call the Master at any time.

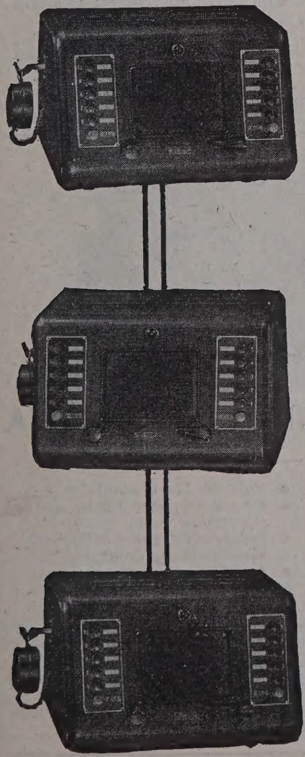
One of the **exclusive features** of the TOKFONE DeLuxe System is that it is designed so that it may be used with either a two-wire or three-wire cable.



Flexibility

When used as a 3-wire system a switch at the side of the cabinet enables a Remote station to carry on a **running conversation** with the Master, once the circuit is completed. It also permits the Remote to remain silent when the circuit is not in use and prevents the Master from listening to trivial or non-pertinent conversations at the Remote.

When a two-wire cable is used, both the Master and Remote stations always remain open so that a running conversation is possible at all times when the "all" button is depressed or in a closed position.



TokFone REG U S PAT OFF **DeLuxe**

INTERCOMMUNICATION *Reaches New High With* MASTER TO MASTER SYSTEM

A Selective System Which Makes Use of Talk-and-Listen-Switch Unnecessary

The Master System Model 710 has many features to recommend it. Two-way private conversation between any two stations is now possible. Every Master Station in this system is a veritable and complete and private self-contained telephone switchboard! Just press in the button indicating which station you wish to speak to and you can carry on a private conversation. SIX SEPARATE AND DISTINCT PRIVATE CONVERSATIONS CAN BE CARRIED ON SIMULTANEOUSLY.

The 710 System does not require the use of a "talk and listen" key. Simply lift the phone to your EAR and you can carry on a RUNNING CONVERSATION. The only time "Talk Listen Key" is used by Master is when loudspeaker operation is desired.

Master Station 710 comes complete, with earphone, "on" and "off" switch, "talk and listen" switch, volume control and 12 push button selector. Cabinet of beautiful hand rubbed walnut, sloping front.

List Price for Each Model No. 710 — $54.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. APPLY FOR TRADE DISCOUNTS.

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TOKFONE AMPLIFIERS

TokFone
REGAL

8 WATT AMPLIFIER COMPLETE

•

Model 8WA
List $32.50
with tubes

Here is a low priced 8 watt amplifier that meets all TokFone requirements of Quality at a price that fits the most restricted budget. Comes COMPLETE, ready to use WITH Sylvania tubes, screen, and carrying handle.

- Full 8 Watt Amplifier
- 4 Tube Chassis
- 2 Channels—1 Microphone and 1 Phono Input
- Separate Control for Each
- Separate Tone Control with Switch
- Has 8 Ohm Output Impedance
- Tube Lineup: 6SJ7-6SF5-6L6-83V
- Extra Heavy Chassis
- Completely Shielded
- Extra Heavy Duty Transformer
- Oversize Components
- High Gain, Wide Frequency Response
- Operates on 110-120 Volts, 50-60 Cycle

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15 WATT AMPLIFIER COMPLETE

•

Model 15WA
List $24.50
less tubes

PERFORMANCE PLUS
AT LOW COST

- Extra Heavy Chassis
- Completely Shielded
- All Oversized Components
- Six Tube Class A Push-Pull
- Fifteen Watt Output
- Three Input Positions—2 Microphone, 1 Phono Unit
- 2-4-8-500 Ohm Outputs
- High Gain, Wide Frequency Response
- Continuous, Variable Tone Control
- Four Stages of Amplification
- Tube Lineup: 1-6SJ7, 2-6SC7, 2-6N6, 1-83V
- Operation on 110-120 Volts, 5-60 Cycle

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30 WATT AMPLIFIER — Model 30WA

List $67.50 — *less tubes*

- Full 30 Watt Amplifier
- Seven Tube Chassis
- Three Channels
- Two Microphone and One Phono Input
- Separate Control for Each
- Separate Tone Control
- Jewel Pilot Light
- Has 4-8-15-500 Ohm Output Impedances
- Rubber Floated Tube Trays
- Tube Lineup: 1-6SJ7, 1-6SF5, 2-6SC7, 2-6L6, 1-83V
- Extra Heavy Chassis, Completely Shielded
- On and Off Toggle Switch
- Oversize Components
- High Gain, Wide Frequency Response
- Operates on 110-120 Volt, 50-60 Cycle

If screen is desired add $7.50 to list price. If set of matched tubes are desired, add $12.50 to list price.
Price as quoted above is for chassis only, less screen and tubes. Chassis is equipped with carrying handles.

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15 WATT PHONO AMPLIFIER

•

Model P15WA
List $44.95
with tubes

This new TokFone Model P15WA fills a long felt need. The amplifier is the same as Model 15A but has the added feature of a built-in electric phonograph. Entire unit comes complete WITH tubes, screen, motor and pick up and is easily portable.

- Extra Heavy Chassis
- Completely Shielded
- All Oversized Components
- Six Tube Class A Push-Pull
- Fifteen Watt Output
- Three Input Positions
- 2 Microphone, 1 Phono Input
- 2-4-8-500 Ohm Outputs
- High Gain, Wide Frequency Response
- Astatic Crystal Pickup
- High Gain Output
- Alliance Rim Driven Constant Speed Motor, 78 RPM
- On and Off Switch for Motor on Phono Control
- Continuous, Variable Tone Control
- Four Stages of Amplification
- Tube Lineup: 1-6SJ7, 2-6SC7, 2-6N6, 1-83V

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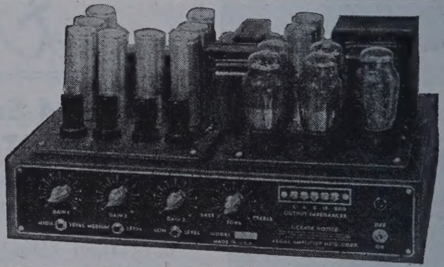
30 WATT PHONO AMPLIFIER

•

Model PW30A
List $87.95
tubes included

- Seven Tube Chassis
- Three Channels
- Two Microphone and one Phono Input
- Separate Control for Each
- Separate Tone Control
- Jewel Pilot Light
- Has 4-8-15-500 Ohm Output Impedances
- Rubber Floated Tube Trays
- Tube Lineup: 1-6SJ7, 1-6SF5, 2-6SC7, 2-6L6, 1-83V
- Extra Heavy Chassis, Completely Shielded
- Full 30 Watt Amplifier
- On and Off Toggle Switch
- Oversize Components
- High Gain Wide Frequency Response
- Operates on 110-120 Volt, 50-60 Cycle
- Astatic Crystal Pickup
- High Gain Output
- Alliance Rim Driven Constant Speed Motor, 78 RPM Response
- On and Off Switch for Motor on Phono Control

For a splendid all-purpose amplifier this model P30WA has no equal. Comes complete with tubes, screen, motor and pickup as illustrated.



60 WATT AMPLIFIER — Model 60WA

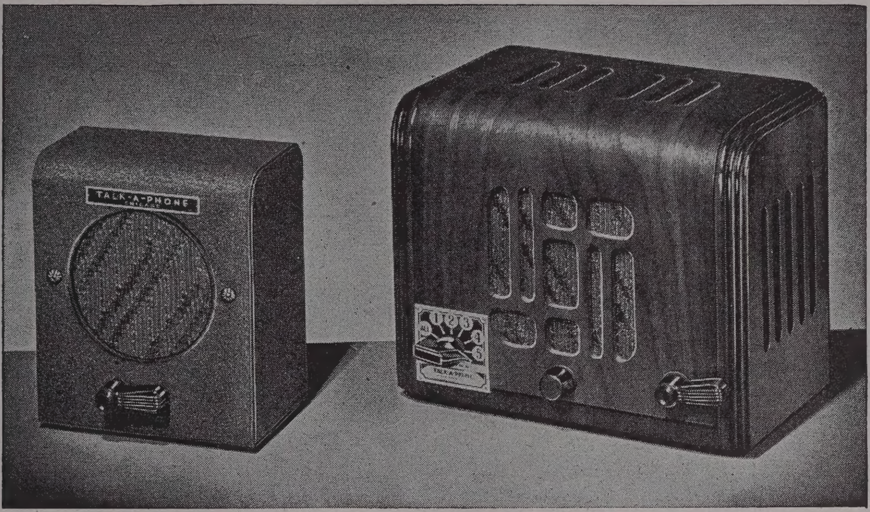
List $82.50 — *less tubes*

- Nine Tube Chassis
- Uses 4-6L6 in Push-Pull Parallel
- Rubber Floated Tube Trays
- Tube Lineup: 1-6SJ7, 1-6SF5, 2-6SC7, 4-6L6, 1-5Z3
- Extra Heavy Chassis, Completely Shielded
- All Oversize Components
- Continued Variable Tone Control
- Full 60 Watt Amplifier
- Two Microphone Inputs and One Phone Input
- Separate Control for Each
- Separate Tone Control
- Jewel Pilot Light
- On and Off Toggle Switch
- High Gain Wide Frequency Response
- Operates on 110-120 Volt, 50-60 Cycle

If screen is desired add $8.50 to list price. For set of matched tubes add $14.00 to list price.
Price as quoted above is for chassis only, less screen and tubes. Chassis is equipped with carrying handles.

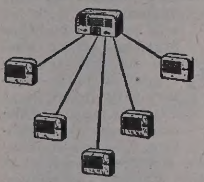
APPLY FOR DISCOUNTS

INTERCOMMUNICATION Talk-A-Phone STANDARD SYSTEMS



SPLIT-SECOND SPEAKING COMMUNICATION — SPEEDS UP OFFICE AND PLANT ROUTINE — SAVES TIME, STEPS, MONEY

LP-5 MASTER SELECTIVE



Consists of 1 Master Station working with up to a total of 5 Sub-stations. Master Station can talk privately to any of the Sub-stations or to all at one time. Each Sub-station can answer and call the Master, but Sub-stations cannot call each other. Up to a total of 5 Sub-stations can be used with the Master. You can begin with a single Sub-station and Master, and then add any number of Sub-stations up to 5, as they are required. The Master enjoys complete privacy; Sub-stations cannot listen in on the Master; they can hear only when they are called. "Silent" feature shuts out all noises originating at Sub-stations. Operates with units as far as 2000 feet apart from each other. Voices carry clearly to a distance of from 25 to 50 feet from Sub-stations. Individuals at Sub-stations may answer when called without leaving work or touching units, at distances from 25 to 50 feet from Sub-stations. Volume level is controlled by Master. The LP-5 Master is housed in a handsome walnut cabinet, only 9¾″ long x 5¾″ deep x 8″ high. Weight packed, 8 lbs. Sub-station is contained in an attractive metal cabinet of modern design, only 5¾″ long x 3¾″ deep x 7″ high. Weight packed, 4 lbs. The LP-5 System operates universally on 110-115 volts, AC or DC.

(Also available for use with up to 10 Sub-stations.)

LP-5 LIST PRICES

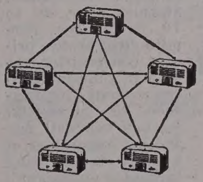
Model LP-5—Master Station Selective Unit, for 5 Sub-stations, complete with tubes and instructions. **List $34.00**

Model LP-10—Master Station Selective Unit, for 10 Sub-stations, complete with tubes and instructions.
List Price $42.50

Model RS-3 — Sub-station Unit, for connecting to the Master Units above.
List Price $12.50

No. 2330 Connecting Cable—The proper cable (3 conductor) for connecting RS-3 Sub-stations to the LP-5 or LP-10 Master Selective Units.
List Price per 100 feet..............**$4.50**

LP-100 SUPER-SELECTIVE



System is made up exclusively of Master Stations up to 5 in number. Permits two complete 2-way conversations to be maintained simultaneously, without cross-talk, or interference. Any one Master can talk to any other Master at will with absolute privacy. Masters may call one another regardless of whether station being called has power "on" or not. Up to a total of 5 Master Stations may be used. You can begin with 2 Masters and then add other units up to a total of 5, as required. Complete privacy of operations is assured by the LP-100. An exclusive advantage is the "Silent" feature which assures 100% silence at every Master Station between conversations. The LP-100 operates with units as far as 2000 feet apart. Voice volume can be adjusted at each Master from a whisper to a loudness that can be heard at 25 to 50 feet from the unit. Master Stations are fashioned of choice walnut woods, finished beautifully both front and back, and compact in design; only 9¾″ long x 5¾″ deep x 8″ high. Weight packed, 8 lbs. The LP-100 System will operate universally on 110-115 volts, AC or DC. Each Master unit costs only 15c per month to operate at average rates.

(Also available for use with up to 10 Masters.)

LP-100 LIST PRICES

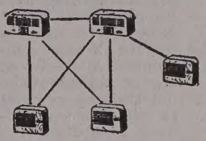
Model LP-100—Master Station Super-Selective Unit for 5-Station use, complete with tubes and instructions.
List Price $39.75

Model LP-110—Master Station Super-Selective Unit, for 10-Station use, complete with tubes and instructions.
List Price $44.75

No. 3333 Connecting Cable—The proper cable (6 conductor) for inter-connecting LP-100 Master Units.
List Price per 10 feet................**$1.45**

No. 6655 Connecting Cable—The proper cable (11 conductor) for inter-connecting LP-110 Master Units.
List Price per 10 feet................**$2.20**

LP-65 COMBINATION MASTER



Any Master in the System can talk at will to any of up to 4 other Stations, either Master or Sub-station type, or both intermixed. Sub-stations cannot listen in on the Masters except when called by a Master. Masters may talk to each other or to Sub-stations at will, but Sub-stations do not originate calls. Up to a total of 5 mixed units (Master or Sub-station types) may be used. You can begin with 2 Stations (at least one must be a Master) and then add units as required, up to a total of 5. The LP-65 will operate effectively even when units are as far as 2000 feet apart. Incoming voice volume is adjustable at each Master unit from a whisper to a loudness that can be heard at 25 to 50 feet away from the unit. Individual being called may reply without leaving work even if he is 25 to 50 feet away from the unit. Master Stations are beautifully built of choice walnut woods. Masters measure only 9¾″ long x 3¾″ deep x 7″ high. Weight packed, 8 lbs. The LP-65 System will operate universally on 110-115 volts, AC or DC. System can be operated for an entire month for less than 15c. Sub-stations consume no electricity at all.

LP-65 LIST PRICES

Model LP-65—Master Selective Station Unit for 5-Station use, complete with tubes and instructions. **List, $42.50**

Model RS-2—Sub-Station Unit.
List Price $11.25

No. 3605 Connecting Cable—The proper cable (5 pair) for inter-connecting LP-65 Master Station Units to each other. **List price** per 10 feet........**$2.50**

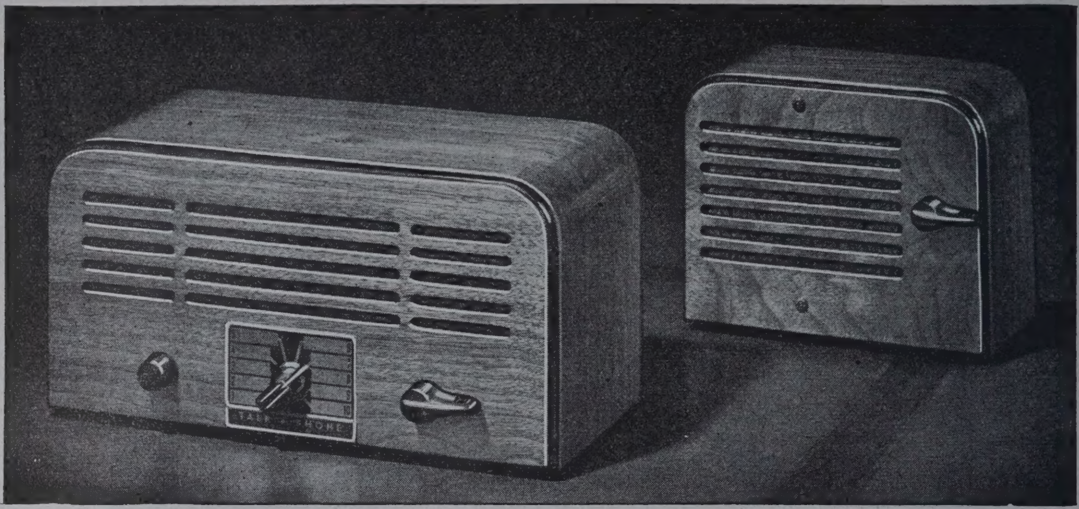
No. 1212 Connecting Cable—The proper cable (2 conductor) for inter-connecting LP-65 Masters with RS-2 Sub-station Units.
List Price per 10 feet..................**$0.50**

Each of the above models may be had in systems consisting of 20, 40, 60, 80, etc. stations. See page C-42 for details.

SEE NEW TALK-A-PHONE COMPLETE CATALOG
Prices and Specifications Subject to Change Without Notice.

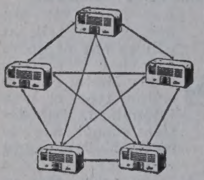
CHICAGO Talk-A-Phone Mfg. Co. ILLINOIS

INTERCOMMUNICATION Talk-A-Phone DE LUXE SYSTEMS



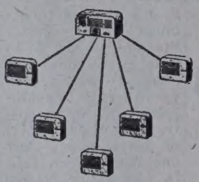
AMERICA'S FINEST INSTANT SPEAKING COMMUNICATION!
SAVES TIME, STEPS, MONEY—SPEEDS UP PLANT & OFFICE ROUTINE

KR-40 MASTER SELECTIVE



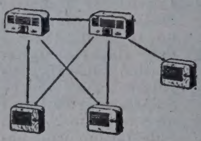
Consists of 1 Master Station working with up to a total of 10 Sub-stations. Affords private 2-way communication between Master and any of the Sub-stations as well as simultaneous address from Master to all Sub-station units. Sub-stations can answer and call the Master, but cannot call one another (Privacy earphone optional). Up to a total of 10 Sub-stations may be used with the Master. You can begin with a single Sub-station and a Master, and then add any number of Sub-stations up to a total of 10. System will operate with units as far as 2000 feet apart from each other. Voices carry to a distance of from 25 to 50 feet from the Sub-station location. Individuals at Sub-stations may answer when called without leaving their work and without touching the unit, from as far away as 25 to 50 feet. "Silent Feature" shuts out noises originating at Sub-stations—yet permits Sub-stations to originate call to Master Station. Volume level is controlled by Master. The Master is housed in a streamlined compact walnut cabinet, only 12" long x 6⅛" high x 5⅝" deep. Weight packed, 10 lbs. Sub-station (small cabinet) is only 7½" long x 3¾" deep x 6⅛" high. Weight packed, 4 lbs. The KR-40 System operates on 110-115 volts, AC or DC. Complete System operates for an entire month for less than 15c.

KS-60 SUPER SELECTIVE



Consists of Master Stations only, up to 10 in number. Permits five 2-way private conversations to be held simultaneously without interference or cross-talk. Masters can call one another regardless of whether station being called has power "on" or not. Up to a total of 10 Master Stations may be employed. You can begin with 2 Masters and then add units up to a total of 10, as required. Complete privacy of communication is assured by the KS-60 System. (Privacy earphone optional—when used, system works like a telephone without use of "talk-listen" switch.) "Silent Feature" assures 100% silence at every Master Station between conversations. The KS-60 operates with undiminished power with units as far as 3000 feet away from one another. The volume may be adjusted at each Master from a whisper to a loudness that can be heard at 25 to 50 feet from the unit. The KS-60 is amazingly economical—each unit costs less than 15c per month to run! KS-60 units (large cabinet above) are luxuriously fashioned of choice walnut woods. Compact in size (only 12" long x 6⅛" high x 5⅝" deep). Weight packed, 10 lbs. The KS-60 System will operate universally on 110-115 volts AC or DC.

KC-80 COMBINATION MASTER



Any Master in this System can talk at will to up to 10 other Stations, either Master or Sub-station types, or both. Masters may listen in at will to any of the other units in the System. The Sub-stations cannot listen in on the Masters except when they are called by the Masters themselves. Masters may talk to each other or to Sub-stations at will, but Sub-stations do not originate calls. (Privacy earphone optional). Up to a total of 10 mixed units (Master or Sub-station types) may be used. You can begin with 2 Stations (at least one must be a Master) and then add units as required, up to a total of 10. Operates with units as far as 2000 feet away from one another. Volume is adjustable at each Master from a whisper to a loudness that can be heard at 25 to 50 feet away from unit. Individual being called may reply without leaving his work even if he is 25 to 50 feet away from his station unit. The KC-80 Master cabinet units are built of choice walnut woods; measure only 12" x 6⅛" x 5⅝"; weight packed, 10 lbs.; the Sub-stations 7½" x 3¾" x 6⅛"; weight packed, 4 lbs. The KC-80 Master Station can be operated for an entire month for less than 15c! Sub-stations consume no electricity. System operates on 110-115 volts, AC or DC.

KR-40 LIST PRICES

Model KR-40. De Luxe Master Station Selective Unit as illustrated (but less earphone) complete with tubes, junction box and instructions. **List Price**	$59.00
Model KR-40-C. Same as above, but with privacy earphone attachment. **List Price**	$74.00
Model RU-43. Sub-station unit, for connecting to Master Station. **List Price**	$18.95
Model RU-43M. Sub-station unit, same as above except in metal cabinet. **List Price**	$18.95
No. 4433 Connecting Cable. 3 Conductors for interconnecting KR-40 Master to Sub-stations. **List Price per 10 feet**	$0.75

KS-60 LIST PRICES

Model KS-60. De Luxe Super-Selective Intercom Master Unit as illustrated (but less earphone), complete with tubes, junction box, and instructions. **List Price**	$59.00
Model KS-60-C. Same as above but with privacy earphone attachment. **List Price**	$74.00
No. 6655 Connecting Cable. The proper cable (11 conductor) for inter-connecting KS-60 Master Units. **List Price per 10 feet**	$2.20

KC-80 LIST PRICES

Model KC-80. Master Selective Unit for 10-Station use, with tubes, junction box, and instructions. **List Price**	$64.75
Model KC-80-C. Same as above, but with privacy earphone attachment. **List Price**	$79.75
Model UC-82. Sub-station for connecting to Master Stations. **List Price**	$18.95
Model UC-82M. Sub-station unit, same as above except in metal cabinet. **List Price**	$18.95
No. 2142 Connecting Cable. The proper cable for interconnecting KC-80 Masters. **List Price per 10 ft.**	$5.00
No. 1212 Connecting Cable. 2 Conductors for interconnecting KC-80 Masters with UC-82 Sub-station Units. **List Price per 10 feet**	$0.50

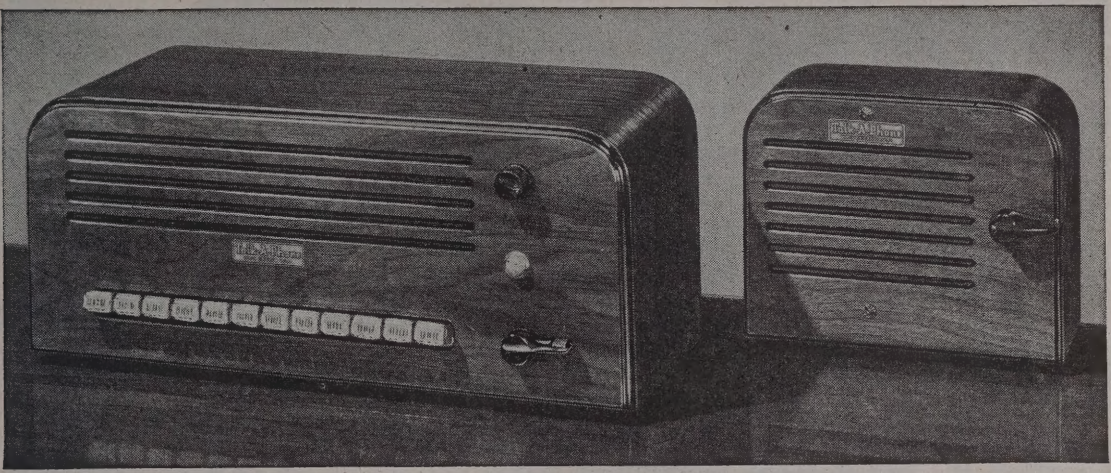
Each of the above models may be had in systems consisting of 20, 40, 60, 80, etc. stations. See page C-42 for details.

SEE NEW TALK-A-PHONE COMPLETE CATALOG

Prices and Specifications Subject to Change Without Notice.

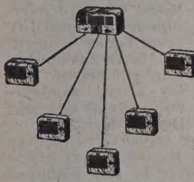
CHICAGO Talk-A-Phone Mfg. Co. ILLINOIS

Talk-A-Phone CHIEF



FINGER-TIP! SPLIT SECOND CO-ORDINATION — OF ALL DEPARTMENTS! RELIEVE YOUR SWITCHBOARD!

MODEL C-410 MASTER SELECTIVE SYSTEMS



The "Chief" Master Selective System (illustrated above) made up of a master station working with up to a total of ten stations affords instant private two-way communication between master and any of the sub-stations as well as simultaneous address from master to all sub-station units by the use of one button. Sub-stations can answer and call the master but can not call one another. Privacy earphone which automatically shuts off speaker is optional. You can begin with a single sub-station and master and then add any number of sub-stations up to a total of ten. Volume is adjusted at each master station from a whisper to full room volume. Built-in automatic "Silent Feature" shuts out noises originating at sub-stations yet permits sub-station to originate call to master station. As an added feature the unit is provided with paging facilities if needed. The "Power" button is depressed when the auxiliary amplifier HP-16 is used to overcome extremely high noise levels. Thus the call can be heard above the noise of machinery, etc. The C-410 System operates on 110-115 volts AC-DC.

MODEL C-410 LIST PRICES

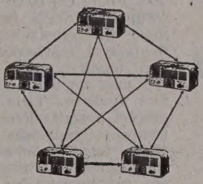
Model C-410—"Chief" Master Station as illustrated, complete with tubes, junction box, and instructions.
List Price $69.95

Model C-410-C—"Chief" Master Station, same as above but with privacy earphone attachment.
List Price $84.95

Model RU-43—Sub-station unit.
List Price $18.95

No. 4433—Interconnecting Cable—the proper cable (3 conductor) for interconnecting Model C-410 to substations.
List Price per 10 feet....................$0.75

MODEL C-610 SUPER SELECTIVE SYSTEMS



The "Chief" Model C-610 utilizes only master stations up to ten in number. With the use of the patented "Hold-A-Matic" push button action, not only may five private two-way conversations be held simultaneously but in addition a conference between any number of stations may be held without any danger of eavesdropping. All stations can call each other, and masters can call one another regardless if station being called has power on or not. You can begin with two masters and then add units up to a total of ten as required. Other features include "Power" and "Uni-Trans," the latter being especially effective for one way transmission of speech. When privacy earphone is used, system works like a telephone without the use of the "Talk-Listen Switch." Built in "Silent Feature" assures 100 per cent silence at every master between conversations. Model C-610 operates with undiminished power with units as far as 3000 feet away from each other. The volume may be adjusted at each master from a whisper to a loudness which can be heard at 25 to 50 feet from the unit. C-610 Units (large cabinet above) are luxuriously finished of choice walnut woods; size 15″ L. x 6⅛″ H. x 7″ D. C-610 System will operate universally on 110-115 volts AC-DC.

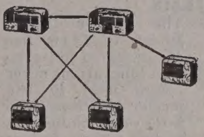
MODEL C-610 LIST PRICES

Model C-610—"Chief" Super Selective Master unit as illustrated, complete with tubes, junction box, and instructions. **List Price**....................$69.95

Model C-610-C—"Chief" Super Selective Master unit, same as above but with privacy earphone attachment.
List Price $84.95

No. 9911—Interconnecting Cable—The proper cable (11 conductor) for interconnecting C-610 Master Stations.
List price per 10 feet....................$2.90

C-712 COMBINATION SYSTEM



The Talk-A-Phone "Chief" Model C-712 combines the use of Master Stations and Sub-stations in combination in the same system. You can begin with 2 Stations (at least one must be a Master) and add either Masters or Sub-stations up to a total of 12 units. Master Stations may call any other units in the system and receive answers. Sub-stations can receive calls from Master and answer, but cannot originate calls to Masters or speak to other Sub-stations. Volume is adjusted at each Master Station by continuously variable volume control, easily accessible, on the front of the unit. Individual being called at either Master or Sub-station may reply without leaving his work even if he is 25 to 50 feet away from unit. Privacy earphone is optional on Master Station of this system. The C-712 operates on 110-115 volts AC-DC.

MODEL C-712 LIST PRICES

Model C-712—"Chief" Master Station unit for 12 stations, complete with tubes, 6 ft. extension cable, junction box, and instructions.
List Price $79.95

Model C-712-C.—"Chief" Master Station unit, same as above but with privacy earphone attachment.
List Price $94.95

Model UC-82—Sub-station unit.
List Price $18.95

Model UC-82M—Same as above except in metal cabinet. **List Price**.......$18.95

No. 2024—Interconnecting cable—the proper cable for interconnecting C-712 Masters to each other (12 pair).
List Price per 10 feet....................$6.00

No. 1212—Interconnecting cable—the proper cable (2 cond.) for interconnecting Masters with UC-82 Sub-stations.
List Price per 10 feet....................$0.50

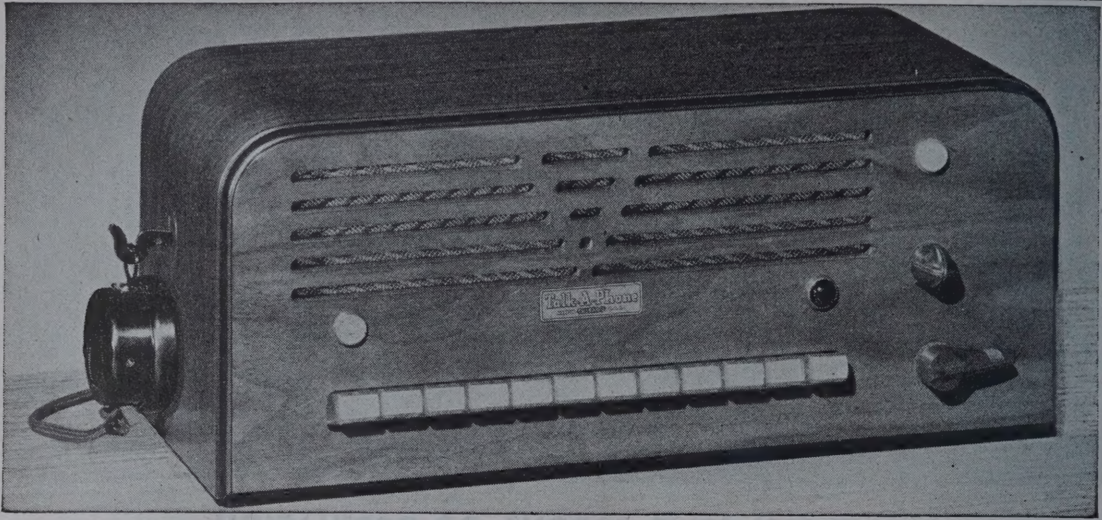
Each of the above models may be had in systems consisting of 20, 40, 60, 80, etc. stations. See page C-42 for details.

SEE NEW TALK-A-PHONE COMPLETE CATALOG

Prices and Specifications Subject to Change Without Notice.

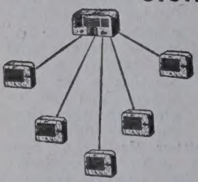
CHICAGO **Talk-A-Phone Mfg. Co.** **ILLINOIS**

Talk-A-Phone *Super* CHIEF



THE FINEST IN INTERCOMMUNICATION — FEATURES INCLUDE CONFERENCE TRAFFIC CONTROL—BUSY SIGNAL LIGHT—UNI-TRANS

MODEL CS-1410 MASTER SELECTIVE SYSTEMS



The "Super Chief" Model CS-1410 has incorporated in its design innovations never before used in the master selective type inter-communication system. This system using one master and up to a total of ten staff stations affords private two-way communication between the master and any of the staff stations. Built into this unit are the now famous Talk-A-Phone "Call Waiting" and "Busy Signal" lights. When the master is talking to a staff station and another staff station wishes to call the master, as soon as the second station attempts to originate the call a red light goes on his station indicating that the master is busy. At the same time an amber light appears at the master station indicating that another staff station is trying to reach him. As soon as the conversation is completed, the lights go off and the new conversation may proceed. Other features include the "Power" button used with the auxiliary amplifier HP-16 to overcome extremely high noise levels and automatic "Silent Feature." Units have extremely high power, undistorted five watts—more than enough for any normal operation. System operates on 110 volts AC, 60 cycles.

MODEL CS-1410 LIST PRICES

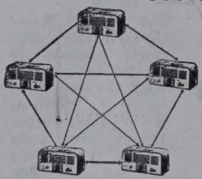
Model CS-1410—"Super Chief" Master Station for ten station use, complete with tubes, junction box and instructions. **List Price** **$120.00**

Model CS-1410-C—"Super Chief" Master Station, same as above but with privacy earphone attachment.
List Price **$135.00**

Model US-703—Staff station unit for connecting to CS-1410 Master Station, complete with "Busy Signal Light.
List Price **$35.00**

No. 8866—Interconnecting Cable—The proper cable (5 conductor) for interconnecting Model CS-1410 Master stations and staff stations.
List Price per 10 feet................ **$1.45**

MODEL CS-1010 SUPER SELECTIVE SYSTEMS



The Model CS-1010 "Super Chief" is made up exclusively of master stations. Any number up to ten may be had in the system. This system permits five two-way conversations to be held simultaneously without interference or cross-talk. You can begin with two masters and then add up to ten as required. In addition by the use of "Traffic Conference Control" any number of stations may hold private conferences without interruption or eavesdropping from stations outside of the conference group. If one of the conference group is called by an outside station, he is signalled by a light so that he knows that a call is waiting. At the same time the "Busy Signal Light" on the caller's unit is illuminated so that he knows that the line he is trying to reach is busy. An outstanding feature is "Uni-Trans" control which enables you to talk to one or as many as you want without interruption, a splendid feature when dictating to one or to a group. When earphone is used, system works like a telephone without use of "Talk-Listen Switch." Styled by industrial designers, cabinets are beautiful ultramodern and of harmonious matched wood design size 15" L. x 6½" H. x 7" D. System operates on 110 volts, AC, 60 cycles.

MODEL CS-1010 LIST PRICES

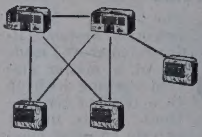
Model CS-1010—"Super Chief" Master Station for ten stations, complete with tubes, junction box and instructions.
List Price **$120.00**

Model CS-1010-C—"Super Chief Master Station, same as above but with privacy earphone attachment.

List Price **$135.00**

No. 2142—Interconnecting Cable—The proper cable (21 conductor) for interconnecting Model CS-1010 "Super Chief" Master Stations.
List Price per 10 feet................ **$5.00**

MODEL CS-1910 COMBINATION SYSTEMS



The "Super Chief" Model CS-1910 offers supreme versatility never before achieved in inter-communication equipment. The CS-1910 combines two systems into one. By the mere flick of a button you have your choice of either an All Master system or a Master Selective system. In addition the unit is also equipped with "Busy Signal" and "Call Waiting" lights. "Uni-Trans" for use between Masters is also built into this system. The volume of incoming voice at both Masters and Staff Stations may be adjusted by a continuously variable volume control easily accessible on the front of the unit. Privacy earphone on Master Stations is optional in this system. Operation is on 110 volts AC, 60 cycles.

MODEL CS-1910 LIST PRICES

Model CS-1910—"Super Chief" Master Station for ten station use, complete with tubes, junction box and instructions. **List Price**...................... **$135.00**

Model US-902—Staff station for originating calls to one Master. Complete with "Busy Signal Light."
List Price **$35.00**

Model US-911—Staff station for originating calls to any of ten Masters, including lights. **List Price**...... **$45.00**

No. 2142 — Interconnecting Cable — (21 conductor) the proper cable for connecting up to six CS-1910 Master Stations to each other.
List Price, per 10 ft.................. **$5.00**

No. 6363 — Interconnecting Cable — (3 pair) the proper cable for interconnecting US-902 and US-911 Staff Stations to Masters.
List Price, per 10 ft.................. **$1.45**

Each of the above models may be had in systems consisting of 20, 40, 60, 80, etc. stations. See page C-42 for details.

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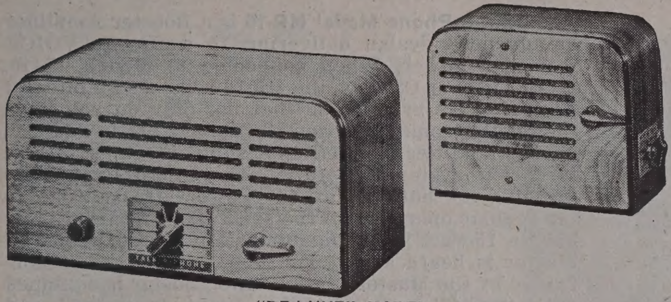
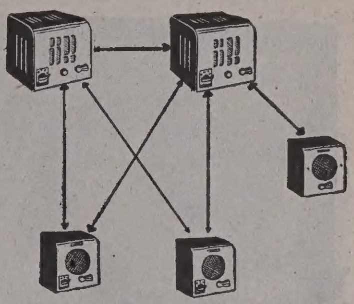
Prices and Specifications Subject to Change Without Notice.

CHICAGO **Talk-A-Phone Mfg. Co.** **ILLINOIS**

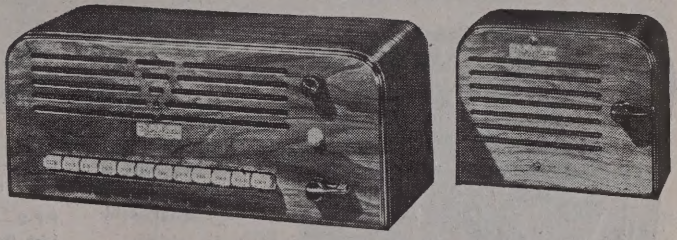
COMBINATION Talk-A-Phone SYSTEMS



"DE LUXE" MODEL



Talk-A-Phone's NEWEST — SUPREME VERSATILITY!



"CHIEF" MODEL

KC-87 DE LUXE MODEL

The KC-87 DeLuxe System uses Master Stations, Staff Stations or Sub-stations in combination in the same system. Master Stations may communicate with each other in perfect privacy and can call Staff Stations and Sub-stations and receive an answer from them. Staff Stations can originate calls to Masters but cannot call other Staff Stations or Sub-stations. Sub-stations can receive calls from Master Stations and answer. Privacy earphone on the Master Station is optional. You can begin with two units (at least one must be a Master) and add as many as required up to a total of ten. System operates with units as far as 3000 ft. away from one another. Volume is adjusted at each Master from a whisper to a loudness that can be heard from 25 to 50 ft. away from the unit. Model KC-87 Master Stations as well as Staff Stations are beautifully designed and built of choice walnut woods. Model UC-82 Sub-stations and UC-201 Staff Stations are also available in metal cabinets at no additional charge. Master Stations weigh packed 10 lbs. Staff or Sub-stations 5 lbs. KC-87 units are furnished complete with tubes, instructions, six foot cable, and junction box, and operates on 110-115 volts AC-DC.

C-810 "CHIEF" MODEL

The Talk-A-Phone "Chief" Model C-810 combines the use of either Master Stations, Staff Stations, or Sub-Stations in the same system. Master Stations may carry on a number of two-way conversations or have a conference in complete privacy. Staff Stations or Sub-stations cannot eavesdrop or interrupt Master Stations. Staff Stations may originate calls to Masters but cannot talk to other Staff Stations or Sub-stations. Sub-stations may receive calls from Masters and answer but cannot talk to other sub-stations or Staff Stations. Privacy earphone is also optional on this model. You can begin with two stations (at least one must be a Master) and add units as required up to a total of ten. Outstanding features include optional "Power" and "Uni-trans" control described previously. Volume is adjusted at each Master Station by a continuously variable control easily accessible on the front of the unit. The system operates on 110-115 volts AC-DC.

MODEL KC-87 LIST PRICES

Model KC-87—DeLuxe Master Station unit for ten station use, complete with tubes, six foot extension cable, junction box and instructions. **List Price**	$64.75
Model KC-87-C—DeLuxe Master Station unit. Same as above but with privacy earphone attachment. **List Price**	$79.75
Model UC-82—Non-originating Sub-station unit in wood. **List Price**	$18.95
Model UC-82M—Same as above except in metal cabinet. **List Price**	$18.95
Model UC-201—Staff Station for originating calls to one Master Station. **List Price**	$22.00
Model UC-205—Staff Station for originating calls to any of five Master Stations. **List Price**	$24.95
Model UC-210—Staff Station for originating calls to any of ten Master Stations. **List Price**	$29.95
No. 3605—Interconnecting Cable (5 pair)—The proper cable for interconnecting up to five Masters. **List Price, per 10 ft.**	$2.50
No. 2142—Interconnecting Cable (10 pair)—The proper cable for interconnecting up to ten Masters. **List Price, per 10 ft.**	$5.00
No. 3636—Interconnecting Cable (3 pair)—The proper cable for interconnecting Staff Station Models UC-201, UC-205 and UC-210 to each Master with whom they are to communicate with. **List Price**, per 10 ft.	$1.45
No. 1212—Interconnecting Cable (2 conductor)—The proper cable for interconnecting Model UC-82 Sub-stations with each Master they are to communicate with. **List Price, per 10 ft.**	$0.50

MODEL C-810 LIST PRICES

Model C-810—"Chief" Master Station unit for ten station use, complete with tubes, six foot extension cable, junction box and instructions. **List Price**	$79.95
Model C-810-C—"Chief" Master Station unit. Same as above but with privacy earphone attachment. **List Price**	$94.95
Model UC-82—Non-originating Sub-station unit in wood. **List Price**	$18.95
Model UC-82M—Same as above except in metal cabinet. **List Price**	$18.95
Model UC-201—Staff Station for originating calls to one Master Station. **List Price**	$22.00
Model UC-205—Staff Station for originating calls to any of five Master Stations. **List Price**	$24.95
Model UC-210—Staff Station for originating calls to any of ten Master Stations. **List Price**	$29.95
No. 3605—Interconnecting Cable (5 pair)—The proper cable for interconnecting up to five Masters. **List Price, per 10 ft.**	$2.50
No. 2142—Interconnecting Cable (10 pair)—The proper cable for interconnecting up to ten Masters. **List Price, per 10 ft.**	$5.00
No. 3636—Interconnecting Cable (3 pair)—The proper cable for interconnecting Staff Station Models UC-201, UC-205 and UC-210 to each Master with whom they are to communicate with. **List Price**, per 10 ft.	$1.45
No. 1212—Interconnecting Cable (2 conductor)—The proper cable for interconnecting Model UC-82 Sub-stations with each Master they are to communicate with. **List Price, per 10 ft.**	$0.50

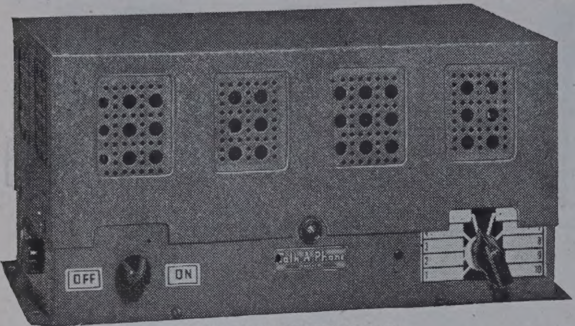
Each of the above models may be had in systems consisting of 20, 40, 60, 80, etc. stations. See page C-42 for details.

SEE NEW TALK-A-PHONE COMPLETE CATALOG

Prices and Specifications Subject to Change Without Notice.

CHICAGO **Talk-A-Phone Mfg. Co.** **ILLINOIS**

Talk-A-Phone *X-TRA POWER*



HP-16 POWER BOOSTER

The Talk-A-Phone Model HP-16 is a Booster Amplifier of advanced design delivering 15 watts of "VOICE RANGE" Power. When connected to Models C-410, C-610, C-810 or CS-1410, the HP-16 becomes an integral part of these systems so that not only do you have the regular communication advantages but in addition paging facilities, as well as a supplementary 15-watt inter-com system. Operation is simple. By merely pressing the button marked "Power" (in addition to the regular operation of the system) you immediately have a 15-watt inter-communication system. Voice of Master is heard at regular room volume and is controlled by the Master Station. The Booster is equipped with "on-off" switch, "Pilot Light Indicator" and "Variable Volume Control" which controls outgoing volume up to 15 watts. Operation is on 115 volts, AC, 60 cycles. Units are furnished complete.

HP-1 SPEAKER

The HP-1 Auxiliary Speaker—Is ideal for paging and inter-communication purposes and has a capacity of 5 watts. Units are in durable metal cabinets.

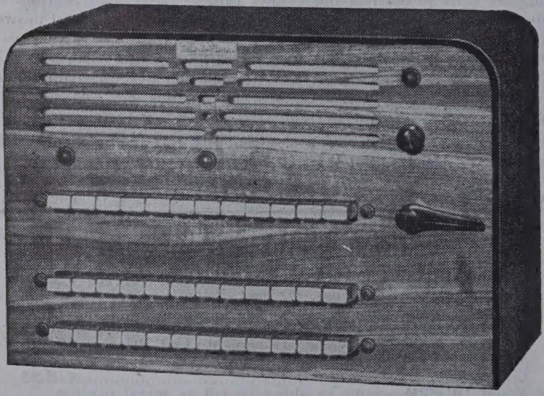
The HP-2.—Same as above but for up to 15 watts capacity.

HP-16 LIST PRICES

HP-16—15 watt Power Booster, complete with matched tubes and installation instructions. **List Price**..............................**$65.00**

HP-1—Paging Station, maximum capacity 5 watts
List Price **$22.50**

HP-2—Paging Station, maximum capacity 15 watts.
List Price **$39.75**



C-434 CHIEF MODEL

Talk-A-Phone Multiple Station Units

An outstanding feature of the Talk-A-Phone line is that all systems are available in stock models from five to 100 stations. These Multiple type units have the same operating characteristics and features as the systems described in the preceding pages. Illustrated to the left is the "Chief" and "Super Chief" model in 34 stations, and for your convenience we are listing below list prices of Master Stations up to and including 34 stations. Sub-station and Staff Station prices remain the same as for 5 and 10 station units. Write for list prices on larger systems. Privacy Earphone is optional on the DeLuxe, "Chief" and "Super Chief" Masters, at an additional list price of $15.00 on each unit.

STANDARD MODELS

LP-20—Master Selective Station for 20 Sub-stations.
List Price **$57.50**

LP-30—Master Selective Station for 30 Sub-stations.
List Price **$72.50**

LP-110-20—Super - Selective Station for 20 Master Stations.
List Price **$59.75**

LP-110-30—Super - Selective Station for 30 Master Stations.
List Price **$74.75**

DE LUXE MODELS

KR-40-20—Master Selective Station for 20 Sub-stations.
List Price **$74.00**

KR-40-30—Master Selective Station for 30 Sub-stations.
List Price **$89.00**

KS-60-20—Super-Selective Station for 20 Master Stations.
List Price **$74.00**

KS-60-30—Super-Selective Station for 30 Master Stations.
List Price **$89.00**

KC-80-20 — Combination Master Station for 20 stations.
List Price **$79.75**

KC-80-30 — Combination Master Station for 30 stations.
List Price **$94.75**

KC-87-20 — Combination Master Station for 20 stations.
List Price **$79.75**

KC-87-30 — Combination Master Station for 30 stations.
List Price **$94.75**

CHIEF MODELS

C-422—Master Selective Station for 22 Sub-stations.
List Price **$94.00**

C-434—Master Selective Station for 34 Sub-stations.
List Price **$118.00**

C-622—Super-Selective Station for 22 Master Stations.
List Price **$94.00**

C-634—Super-Selective Station for 34 Master Stations.
List Price **$118.00**

C-724—Combination Master Station for 24 stations.
List Price **$104.00**

C-736—Combination Master Station for 36 stations.
List Price **$128.00**

C-822—Combination Master Station for 22 stations.
List Price **$104.00**

C-834—Combination Master Station for 34 stations.
List Price **$128.00**

SUPER CHIEF MODELS

CS-1422—Master Selective Station for 22 Staff Stations.
List Price **$144.00**

CS-1434—Master Selective Station for 34 Staff Stations.
List Price **$168.00**

CS-1022—Super-Selective Station for 22 Master Stations.
List Price **$144.00**

CS-1034—Super-Selective Station for 34 Master Stations.
List Price **$168.00**

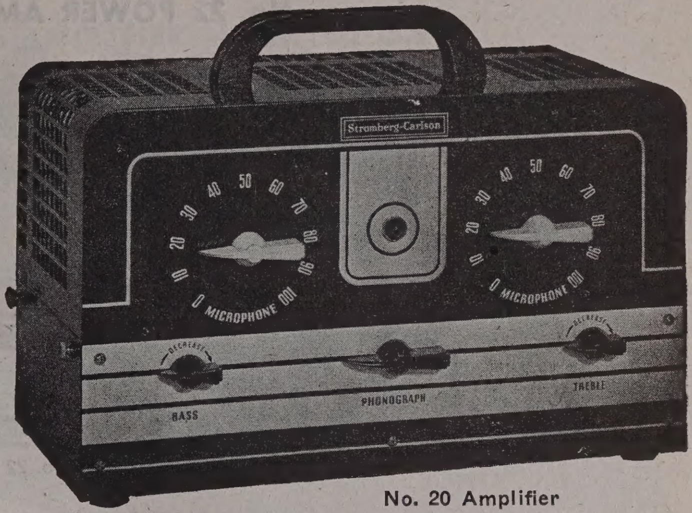
CS-1922 — Combination Master Station for 22 stations.
List Price **$159.00**

CS-1934 — Combination Master Station for 34 stations.
List Price **$183.00**

SEE NEW TALK-A-PHONE COMPLETE CATALOG
Prices and Specifications Subject to Change Without Notice.

No. 20
HIGH FIDELITY AMPLIFIER

Brief Specifications



No. 20 Amplifier

Overall Size: Width, 13½″; Depth, 9″; Height, 10¼″.

Weight: Net 26 lbs., Packed for Shipment, 35 lbs.

Tubes Required: 2 No. 6SJ7, 1 No. 6J5, 1 No. 6N7, 2 No. 6L6G, 1 No. 5U4G.

Power Supply: 105-125 Volts, 50-60 Cycles.

Inputs: Two Microphone, One Phonograph, All High Impedance.

Controls: 2 Microphone, 1 Phonograph, 1 Bass Booster and Bass Suppressor, 1 Treble with ON-OFF Switch.

Power Output: 30 Watts at 117 Volt Line.

Power Gain: 119 db from Microphone Inputs; 83 db from Phonograph Input.

Output Impedance: 4, 8, 30, 60, 125, 250, 500 Ohms.

Frequency Response: 30 to 10,000 Cycles with Not More Than 3 db Variation.

Accessory: 33584 Remote Mixer.

Finish: Van Dyke Brown.

Send for Engineering Data Sheet SED 1.6 for Detailed Specifications.

No. 21 FIFTY WATT AMPLIFIER

Brief Specifications

Overall Size: Width, 16½″; Depth, 14″; Height, 10″.

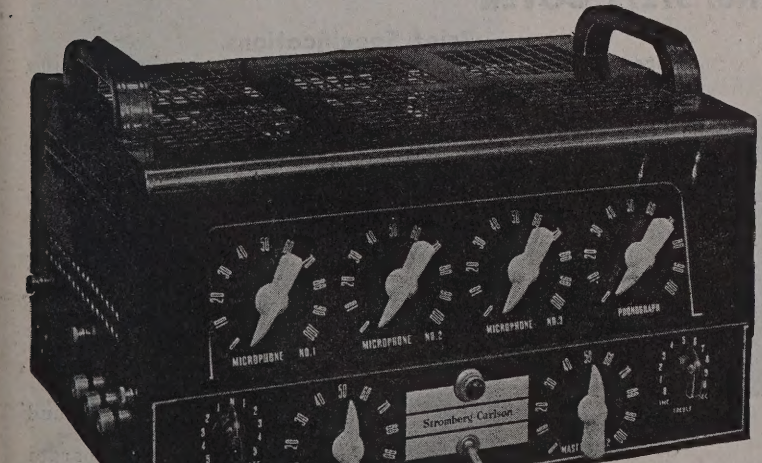
Weight: 41 lbs. Net, 50 lbs. Packed for Shipment.

Tubes Required: 3 No. 6SJ7, 2 No. 6N7, 1 No. 6J5, 4 No. 6L6G, 2 No. 6SF5, 2 No. 5U4G.

Power Supply: 105-125 Volts, 50-60 Cycles.

Inputs: 3 Microphone, 1 Phonograph, All High Impedance.

Controls: 3 Microphone, 1 Phonograph, 1 Bass Booster and Bass Suppressor, 1 Treble Suppressor, 1 ON-OFF Switch, 2 Master Volume Controls.



No. 21 Amplifier

Power Output: 50 Watts at 117 Volt Line; 25 Watts on Each of the Dual Channels.

Power Gain: 117 db from Microphone Inputs, 87 db from Phonograph Input.

Output Impedance: Two Separate Output Transformers Each Tapped at 4, 8, 30, 60, 125, 250, and 500 Ohms.

Useful Frequency Range: 40 to 10,000 Cycles.

Accessory: 33584 Remote Mixer.

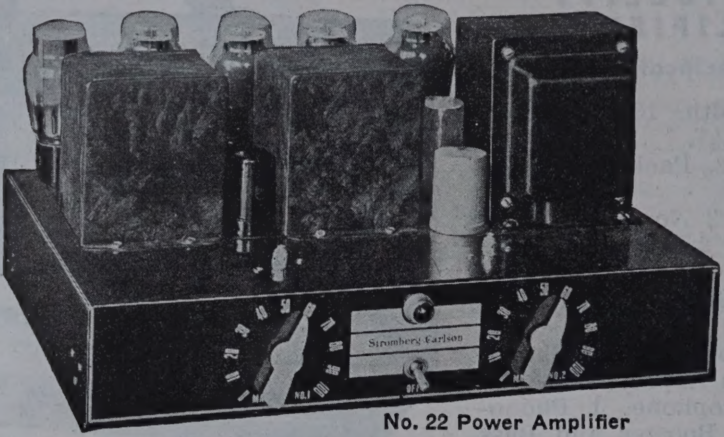
Finish: Van Dyke Brown.

Send for Engineering Data Sheet SED 1.7 for Complete Specifications.

STROMBERG-CARLSON

Straight-Line Communication Equipment includes Microphones, Speakers and Accessories for Complete Installations.
See Classified Section of Telephone Directory for Local Distributor

No. 22 POWER AMPLIFIER



No. 22 Power Amplifier

Brief Specifications

Overall Size: Width, 16½″; Depth, 14″; Height, 8½″.

Weight: 37 lbs. Net; 45 lbs. Packed for Shipment.

Tubes Required: 2 No. 6SF5, 4 No. 6L6G, 2 No. 6N7, 2 No. 5U4G.

Power Supply: 105-125 Volts, 50-60 Cycles.

Inputs: 1 High Impedance Input with Double Input Jack Arrangement.

Controls: Two Master Volume Controls.

Power Output: 50 Watts at 117 Volt Line; 25 Watts on Each Channel.

Power Gain: 93 db from Input.

Output Impedance: Two Separate Output Transformers Each Tapped at 4, 8, 30, 60, 125, 250, and 500 Ohms.

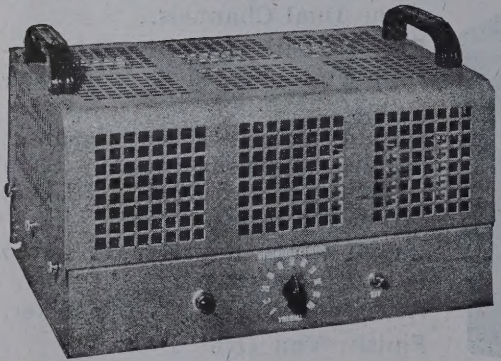
Useful Frequency Range: 40 to 10,000 Cycles.

Finish: Van Dyke Brown.

Accessories: 35508 Top Cover with Handles. 35224 Connector Cord, Used When Driving No. 22 Amplifier from No. 21.

Send for Engineering Data Sheet SED 1.8 for Detailed Specifications.

No. 25 POWER AMPLIFIER EQUIPPED WITH No. 37273 COVER



No. 25 Amplifier Equipped with No. 37273 Cover.

Brief Specifications

Size: Chassis Base 16″ x 3″ x 12⅛″. **Height with Cover:** 10″.

Weight: 35 lbs. Net, 50 lbs. Packed for Shipment.

Tubes Required: 2-6SJ7, 4-6L6G, 2-5U4G.

Power Supply: 105 to 125 Volts, 50-60 Cycles.

Audio Power Output: 45 Watts at a Line Voltage of 117 Volts, 60 Cycles.

Input Transformer: Hum Bucking Coil Construction with Tri-alloy Shielding, Impregnated and Potted. Primary 10,000 Ohms, Center-tapped at 2,500 Ohms. Designed to Operate from 500 Ohm Line at an Input Voltage of 1.73 Volts.

Power Gain: 51 db Based on 10,000 Ohm Input Impedance and 500 Ohm Output Impedance.

Fidelity: Not More Than 3 db Variation from 75 to 10,000 Cycles.

Hum and Noise Level: 60 db Below 45 Watts Output.

Output Transformer: Tapped at 4, 8, 30, 60, 125, 250 and 500 Ohms.

Controls: Continuously Variable Volume Control; Separate ON-OFF Switch.

Finish: Slate Gray Ripple Enamel Over Copper Plated Steel Chassis.

Send for Engineering Data Sheet SED 1.1 for Detailed Specifications.

STROMBERG-CARLSON

Straight-Line Communication Equipment includes Microphones, Speakers and Accessories for Complete Installations.
See Classified Section of Telephone Directory for Local Distributor

MODEL 500 PRE-AMPLIFIER MOUNTED ON No. 35690 PANEL ASSEMBLY

Brief Specifications

Overall Size: Width, 13½″; Depth, 9″; Height, 10¼″.

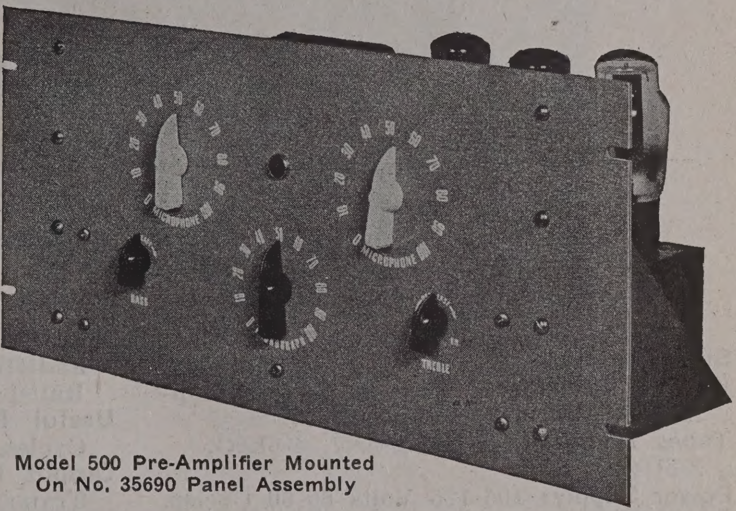
Weight: Net 26 lbs. Packed for Shipment 35 lbs.

Tubes Required: 2 No. 6SJ7; 1 No. 6N7; 2 No. 6F6G; 1 No. 5U4G.

Power Supply: 105-125 Volts, 50-60 Cycles.

Inputs: Two Microphone, One Phonograph, All High Impedance.

Controls: 2 Microphone, 1 Phonograph, 1 Bass Suppressor, 1 Treble Suppressor with ON-OFF Switch.



Model 500 Pre-Amplifier Mounted On No. 35690 Panel Assembly

Output Impedance: 500 Ohms.

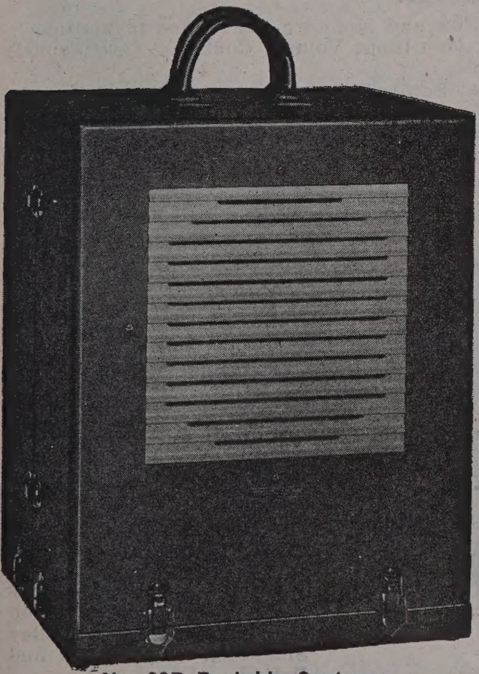
Power Gain: 75 db from Microphone Inputs; 40 db from Phonograph Input.

Output Impedance: 500 Ohms.

Useful Frequency Range: 40 to 10,000 Cycles.

Finish: Van Dyke Brown.

Send for Engineering Data Sheet SED 1.4 for Detailed Specifications.



No. 20P Portable System

MODEL 20P PORTABLE SYSTEM

Brief Specifications

Size: 20½″ H Case Only, 24″ H Over Handle, 16″ W, 14″D.

Amplifier: Equipped with No. 20 Amplifier.

Speakers: Two Heavy Duty 12″ P. M. Cone Speakers.

Cords: Two Super Service 25 ft. Speaker Cords.

Catches: Rattle-Proof Type.

Weight: Less Amplifier 25 lbs. Packed for Shipment 30 lbs.

Finish: Durable Dark Blue Fabrikoid; Sand Colored Louvers.

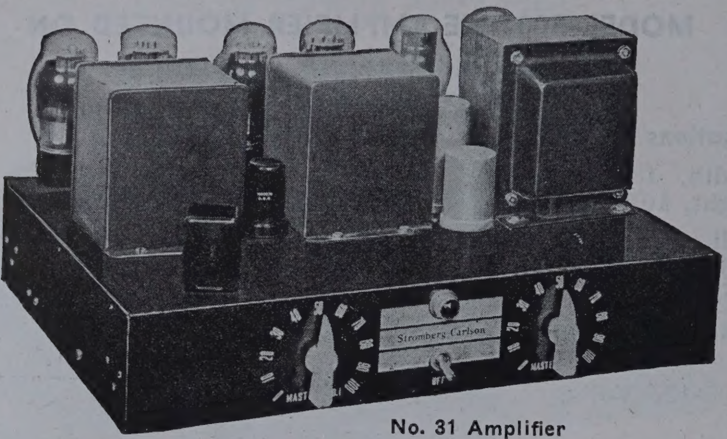
Send for Engineering Data Sheet DC-10 for Detailed Specifications.

STROMBERG-CARLSON

Straight-Line Communication Equipment includes Microphones, Speakers and Accessories for Complete Installations.
See Classified Section of Telephone Directory for Local Distributor

STROMBERG CARLSON
STRAIGHT-LINE COMMUNICATION

No. 31 DUAL OUTPUT POWER AMPLIFIER



No. 31 Amplifier

Brief Specifications

Size: Length 16½″, Depth 14″, Height 8½″.

Weight: 37 lbs. Net, 45 lbs. Packed for Shipment.

Tubes Required: 2-6J5, 2-6N7, 4-6L6G, 2-5U4G.

Power Supply: 105-125 Volts 50-60 Cycles.

Audio Power: 45 Watts at 117 Volts.

Input: 10,000 Ohms Center Tapped.

Power Gain: 75 db. Based on 10,000 Input Impedance, 4 Ohm Output Impedance.

Hum Level (at Max. Gain): Combined Noise and Hum Level Approx. 68 db. Below Full Rated Output.

Useful Frequency Ranges: 40 to 10,000 Cycles.

Output Impedance: Two Separate Output Transformers Each Tapped at 4, 8, 30, 60, 125, 250, and 500 Ohms.

Controls: Two Master Volume Controls. Separate A.C. Switch.

Accessory: 35508 Top Cover with Handles.

Finish: Van Dyke Brown.

No. 30 MARINE AMPLIFIER

Brief Specifications

Size: 18⅛″ L, 12¾″ W, 10″ H.

Weight: 37 lbs. Net; 45 lbs. Packed for Shipment.

Finish: Base, Cadmium Plated; Choke and Transformer Containers, Black Ripple.

Potted and Impregnated: Transformer and Choke.

Wiring: Fire and Moisture Resistance Insulation.

Controls: One Input Volume Control — Continuously Variable.

Terminals: Screw Type.

Relay: Provision for Plate Supply Relay, Terminals Provided on Terminal Strip.

Hum Level: At Least 46 db Below Maximum Power Output.

Frequency Response: Within 3 db from 75 to 10,000 Cycles.

Tubes Required: 4-6SJ7, 4-6L6G, 2-5U4G, Tube Clamps on 6L6G and 5U4G Sockets.

Pilot Lamp: 1 No. 29956.

Power Supply: 105-125 Volts, 60 Cycles at 125 Volts.

Power Consumed: 250 Watts at 125 Volts.

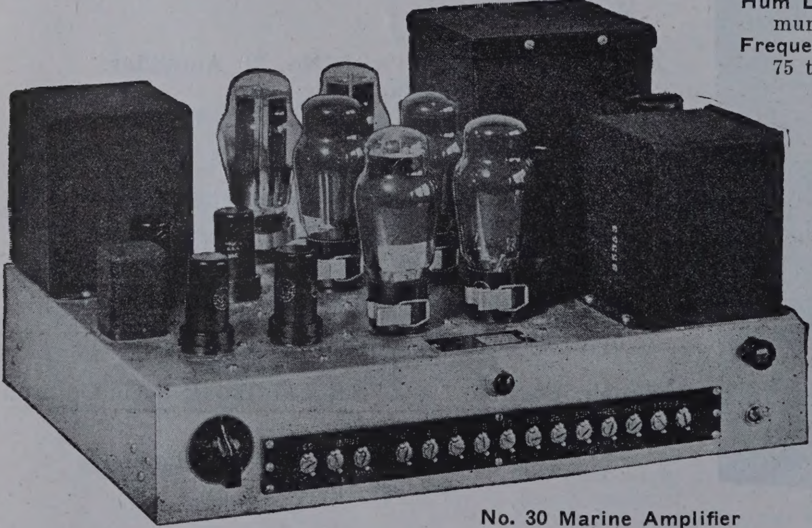
Power Gain: 105 db Based on 30 Ohm Input Impedance.

Power Output: 50 Watts at a Line Voltage of 117 Volts, 60 Cycle.

Output Impedance Taps: 4, 8, 30, 60, 125, 250, and 500 Ohms.

Input Transformer: 30 Ohms Primary, Hum Bucking Coil Construction with Tri-alloy Shielding, Impregnated and Potted.

Send for Engineering Data Sheet SED 1.2 for Detailed Specifications.



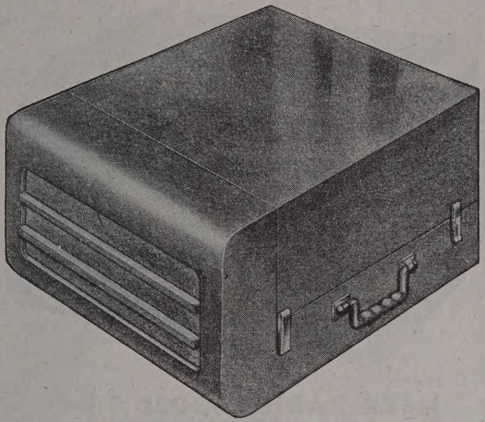
No. 30 Marine Amplifier

STROMBERG-CARLSON

Straight-Line Communication Equipment includes Microphones, Speakers and Accessories for Complete Installations.
See Classified Section of Telephone Directory for Local Distributor

MECK RADIOS

JOHN MECK INDUSTRIES, Inc. • PLYMOUTH, INDIANA, U. S. A.



MECK RADIO-PHONOGRAPH COMBINATION MODEL 5-TC-3

5 Tube Super.

TUNING RANGE: 538—1750 KCs.

CABINET: Portable type covered with genuine calfskin leather—16″ wide, 11″ high, 18″ deep.

PHONOGRAPH: Two-Post Automatic Record Changer. Changes twelve 10″ or ten 12″ records.

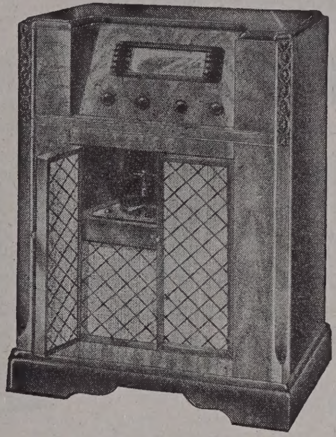
PLUS FEATURE: Exclusive MECK Chassis makes it possible to reduce the height to only 11 inches.

MECK PHONOGRAPH
The Palm Springs Model P-25

3 Tube Amplifier. 6″ Oval Dynamic Speaker.

PHONOGRAPH: Two-Post Automatic Record Changer. Changes twelve 10″ or ten 12″ records.

CABINET: Portable type covered with genuine calfskin leather—16″ wide, 11″ high, 18″ deep.



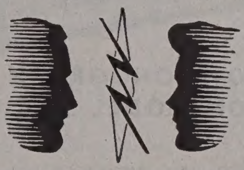
MECK RADIO-PHONOGRAPH CONSOLE COMBINATION MODEL 7-CFP-70

7 Tube AM-FM Super.

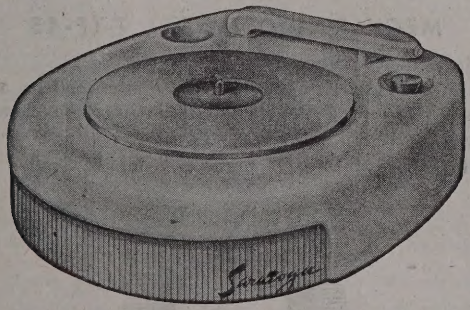
TUNING RANGE:
538—1750 KCs standard broadcast.
42-50 Megohms Frequency Modulation broadcast.

CABINET: Selected and matched sliced cut and stump walnut—42″ high, 28″ wide, 18″ deep.

"HIDE-A-WAY" PHONOGRAPH: Two-Post Automatic Record Changer. Changes twelve 10″ or ten 12″ records.



Face to Face Reception



MECK PHONOGRAPH
The Saratoga Model P-21

3 Tube Amplifier.

4″ Electro-Dynamic Speaker.

Self-starting constant speed phonograph motor. New low pressure crystal pick-up. Plays 10″ or 12″ records.

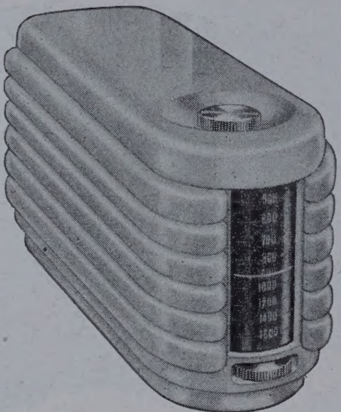
CABINET: Ivory plastic: 11″ wide, 3″ high, 15″ deep.

Also available as a wireless record player, Model P-22, and as a record player attachment, Model P-23.

TABLE MODELS • PORTABLES • CONSOLE COMBINATIONS • PHONOGRAPHS

MECK RADIOS

JOHN MECK INDUSTRIES, Inc. • PLYMOUTH, INDIANA, U. S. A.



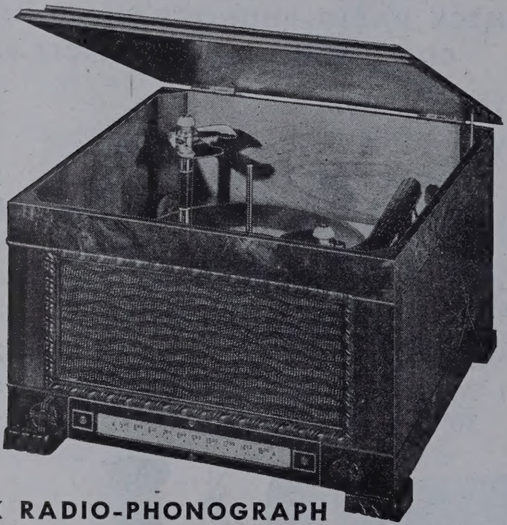
MECK RADIO MODEL 4-T-40

4 Tube AC-DC Super.

Dynamic Colortone Speaker.

Plastic cabinet of modernistic design. Size, 6″ high, 3½″ wide, 8″ deep.

Covers full standard broadcast band. Available in walnut and white.



MECK RADIO-PHONOGRAPH COMBINATION MODEL 5-TC-1

5 Tube Super.

TUNING RANGE: 538—1750 KCs.

6″ Oval Dynamic Colortone Speaker.

Slide Rule full vision dial. Built-in antenna.

CABINET: Walnut—16″ wide, 11″ high, 16″ deep.

PHONOGRAPH: Two-Post Automatic Record Changer. Changes twelve 10″ or ten 12″ records.

PLUS FEATURE: Exclusive MECK design chassis makes it possible to reduce the height to only 11 inches.

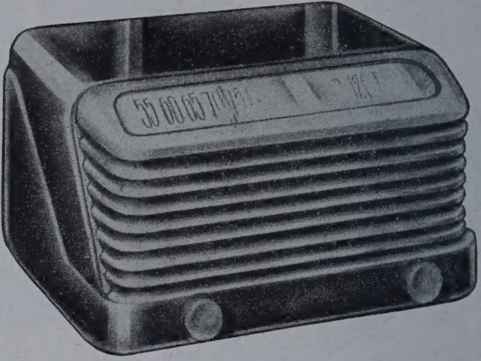
Also available as a single record player combination. Model 5-TC-2.

MECK PHONOGRAPH—The Bar Harbor MODEL P-24

3 Tube Amplifier. 6″ Oval Dynamic Speaker.

PHONOGRAPH: Two-Post Automatic Record Changer. Plays twelve 10″ or ten 12″ records.

CABINET: Handrubbed walnut—16″ wide, 11″ high, 16″ deep.



MECK RADIO MODEL 5-T-41

5 Tube AC-DC.

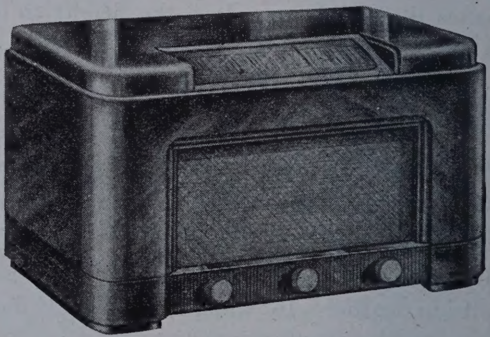
6″ Oval Speaker.

CABINET: Plastic—6″ high, 10″ wide, 6″ deep.

TUNING RANGE: 538—1750 KCs. Covers full standard broadcast band.

Available in walnut and white.

This five tube chassis also available as follows:
Model 5-T-42, Wood Table Model.
Model 5-T-43, Wood Table Model.
Model 5-T-44, Leatherette Table Model.



MECK RADIO MODEL 7-TF-45

7 Tube AM-FM Super.

TUNING RANGE: 538—1750 KCs standard broadcast. 42-50 Megohms Frequency Modulation broadcast.

6″ Oval speaker.

CABINET: Walnut—9½″ high, 14″ wide, 8″ deep.

Face to Face Reception

TABLE MODELS • PORTABLES • CONSOLE COMBINATIONS • PHONOGRAPHS

Meissner "Custom" Super Kits

12-TUBE CUSTOM SUPER RECEIVER KIT

The finest all-wave home receiver in the Meissner Kit line—uses twelve latest type tubes, every one performing a vital function and contributing to the unequalled overall performance of this peer of radio receivers!

High-gain "television" type tubes are used in the RF section for maximum sensitivity and stability; two-stage I-F channel with electrically-variable band-expanding transformers. Separate bass and treble tone controls permit tonal modification to suit the most fastidious ear; inverse feedback in the output stage eliminates distortion; full 15 watts of distortionless audio energy available at the speaker!

Full frequency coverage between 540 kc and 42 mc in four bands plus an additional Longwave band covering 132 to 405 kc. Phono input jack permits use of full audio system including tone and volume controls.

COMPLETE KIT

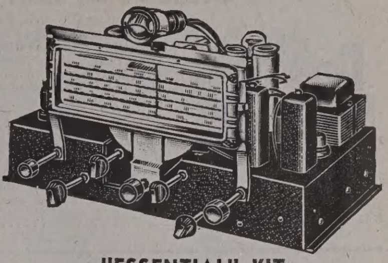
Anyone can build the Meissner 12-tube "Custom" Super with one of these Complete Kits. Everything is furnished, except tubes and speaker, down to the last nut and bolt—includes hook-up wire and solder. The only tools required are a screwdriver, pliers and soldering iron. Detailed instructions supplied with each kit, including famous Meissner Pictorial Wiring Diagram. A good 12" dynamic speaker is recommended, having a 2000-ohm field and output transformer to match 6L6's in push-pull. Tubes required are: 2—6AB7 (1853), 1—6SA7, 2—6K7, 1—6H6, 2—6C5, 2—6L6, 1—5X4G and 1—6G5.

No. 10-1156—12-tube "Custom" Super, Complete Kit less Tubes and Speaker; without panel and cabinet; shipping weight, 25 lbs....................**List Price $109.50**

No. 10-1166—12-tube "Custom" Super, Complete Kit less Tubes and Speaker; with panel and Cabinet; shipping weight, 43 lbs....................**List Price $121.00**

No. 11-8210—Front Panel for 12-tube "Custom", 19¼" x 10", black-crackle steel.......**List Price $3.85**

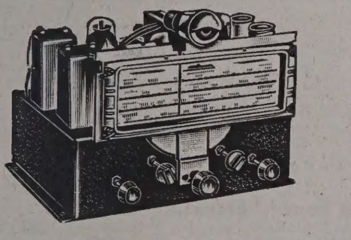
No. 11-8222—Steel Cabinet to match, 19¼" x 10" x 11¼", black-crackle finish.........**List Price $8.25**



"ESSENTIAL" KIT

In addition to the Complete Kits, Meissner also offers the Essential parts required to build this quality receiver at a considerable saving in cost. "Essential" Kit includes the punched chassis, pre-aligned RF Tuning Assembly, dial, all I-F Transformers, Selectivity Switch and other special parts with complete instructions for assembly and wiring. Detailed Parts List describes other parts required which are all readily obtainable from general stock.

No. 12-1028—"Essential" Kit...**List Price $65.50**



"Essential" Kit

For those who may have a supply of small parts on hand or who may wish to obtain them separately, this "Essential" Kit is available to provide all of the special Meissner parts required to build this excellent receiver. Contains completely punched steel chassis, pre-aligned RF Coil Assembly, dial, input and output I-F Transformers, and other special small parts with detailed assembly and wiring instructions, schematic and pictorial diagrams, same as supplied with the Complete Kit. Detailed Parts List included.

No. 12-1027—"Essential" Kit....**List Price $47.50**

9-TUBE CUSTOM SUPER RECEIVER KIT

Second only in performance to the 12-tube "Custom" Super and designed to include most of the quality features of the larger receiver. A considerable reduction in cost has been made possible, however, by judicious use of dual-purpose tubes and simplification of general arrangement of parts. Makes a very excellent replacement chassis for those who have a fine cabinet that they wish to keep or may be used in special Meissner steel cabinet, professionally finished in black crystal lacquer.

Everything has been included to obtain maximum possible performance from a receiver of this size! High-gain RF stage on all bands; the four-band pre-aligned RF Coil Assembly provides full coverage from 540 kc to 42 mc. Ferrocart iron-core I-F stage provides maximum selectivity consistent with good tonal quality. Diode second detector with transformer-coupled push-pull output stage; inverse feedback eliminates distortion; 6V6G output tubes provide full 8½ watts audio energy to the speaker. Phono pick-up jack is provided at input of audio system.

Easy to Build—Complete Kit

The construction of a complete receiver from one of these Complete Kits is extremely simple. The only parts not included are the tubes and speaker. A good 10" or 12" dynamic speaker should be obtained with a field resistance of 800 to 1250 ohms and output transformer to match 6V6's in push-pull. Tubes required are: 2—6AB7 (1853), 1—6SA7, 1—6K7, 1—6F8G, 2—6V6 or 6V6G, 1—5Y4G and 1—6G5. Detailed instructions with schematic and pictorial wiring diagrams are provided. The only tools required are a screwdriver, pliers and soldering iron; final alignment may be readily accomplished with standard service equipment.

No. 10-1129—9-tube "Custom" Super, Complete Kit less Tubes and Speaker; without Panel and Cabinet; shipping weight, 22 lbs....................**List Price $83.75**

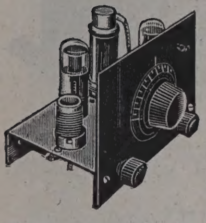
No. 10-1168—9-tube "Custom" Super, Complete Kit less Tubes and Speaker; with Panel and Cabinet; shipping weight, 38 lbs....................**List Price $94.50**

No. 11-8221—Front Panel for 9-tube "Custom", 19¼" x 10", black crystal lacquer.....**List Price $3.50**

No. 11-8222—Steel Cabinet to match, 19¼" x 10" x 11½", black crystal lacquer.......**List Price $8.25**

★ Student "Midget" Receiver Kits ★

★ BATTERY-OPERATED MODELS ★



These Meissner Student "Midget" Kits have been especially designed for use in classrooms where Radio is being taught. Not toys in any sense, but real radio receivers, just as carefully engineered as the large, multi-band Meissner Receivers. The One-Tube Receiver may be assembled by the Student or Experimenter and, after he has become thoroughly familiar with its operation, he can make a Two-Tube set out of it—simply by adding the parts included in the first "Add-On" kit. The use of the second "Add-On" Kit will convert the Two-Tube set to a Three-Tube receiver. Latest types of 1½-volt battery operated tubes provide high performance with minimum battery drain. Each Kit supplied with plug-in coil to cover Broadcast Band, 200 to 545 meters; additional coils available to make it a real "all-wave" receiver. See listing below at right. All three models have a single large bakelite dial; Regeneration Control is provided on all three and a Volume Control is added when the Three-Tube set is built. All sets are designed for Headphone operation, although the Three-Tube set will operate a small magnetic or P-M dynamic speaker with excellent results.

Absolutely everything required for completion of the set is included. After it is all built it is only necessary to obtain a set of tubes and batteries and a pair of headphones and start listening! Detailed printed instructions are packed with each kit; Pictorial Wiring Diagrams show exactly where each part belongs and how it is connected. The only tools required are a screwdriver, pliers and a small soldering iron. All three sets use a single 1½-volt "A" battery; the One-Tube set uses a single 45-volt "B" battery while the Two- and Three-Tube sets require two 45-volt "B" batteries and one 7½ volt "C" battery. The One-Tube set uses a 1E4G tube; the Two-Tube set adds a 1C5G and the Three-Tube set uses an additional 1H5G tube.

★ BATTERY "MIDGET" KITS ★

No. 10-1161—One-Tube Student "Midget" Battery Receiver Kit..**List $5.50**
No. 10-1162—Two-Tube Student "Midget" Battery Receiver Kit..**List 6.75**
No. 10-1163—Three-Tube Student "Midget" Battery Receiver Kit.**List 8-50**

★ "ADD-ON" KITS ★

Contain all parts and instructions necessary to make a Two-Tube set out of a One-Tube or a Three-Tube out of a Two-Tube.

No. 10-1180—One- to Two-Tube "Midget" Add-On Kit, with instructions. **List Price** **$1.25**

No. 10-1181—Two to Three-Tube "Midget" Add-On Kit, with instructions. **List Price** **$2.25**

★ AC-DC POWERED MODELS ★

n response to popular demand, the famous Meissner Student "Midget" receivers are now available for AC or DC operation—directly from any 110-volt power line! Practically identical in appearance and general circuit arrangement, their principal difference lies in the type of power supply only. The same progressive building idea has been maintained in making these new sets available in the form of two- and three-tube kits—with a special "Add-On" kit to convert the two-tube to the three-tube set! The circuit is of the regenerative type, providing remarkable sensitivity for a limited number of tubes; both sets are intended for headphone operation. The same plug-in coils as used in the battery models are used in these AC-DC models, the Broadcast band coil being furnished with the kit. Every student or beginning experimenter in radio will be able to gain a world of valuable practical information by building one of these efficient little receivers!

★ COMPLETE BIT—EVERYTHING FURNISHED ★

When you unpack one of these kits and start to assemble it according to the easy step-by-step instructions included, nothing need stop you until the job is done! Absolutely all parts are included except tubes and headphones. Two type —76 tubes are required for the two-tube set and three of the same type for the three-tube set. One of these serves as a rectifier in each set. They are inexpensive and available anywhere. Detailed instructions furnished include complete Pictorial and Schematic diagrams—every part and wire is shown just as it appears in the finished set!

★ AC-DC "MIDGET" KITS ★

No. 10-1192—Two-tube Student "Midget" AC-DC Receiver Kit...**List $7.00**
No. 10-1193—Three-tube Student "Midget" AC-DC Receiver Kit..**List 8.00**

★ TWO- TO THREE-TUBE CONVERSION KIT ★

Contains all of the extra parts required to make a three-tube receiver out of the two-tube set. Complete instructions included.

No. 10-1194—Two- to three-tube "Midget" AC-DC Add-On Kit...**List $0.75**

★ ACCESSORIES FOR STUDENT "MIDGETS" ★

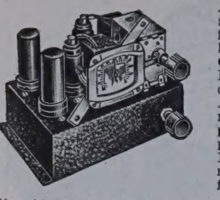
No. 18-2940—75 to 200 meter Plug-In Coil..................**List Price $0.66**
No. 18-2941—35 to 70 meter Plug-In Coil..................**List Price .66**
No. 18-2942—17 to 35 meter Plug-In Coil..................**List Price .66**
No. 18-2944—545 to 1500 meter Plug-In Coil..................**List Price 1.65**

NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner PRECISION-BUILT PRODUCTS

Meissner Receiver Kits

4-TUBE AC-DC T.R.F. KIT



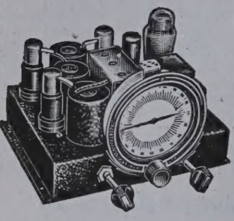
A very small, compact receiver with surprising sensitivity and tone quality may be constructed from this complete kit. Covers regular Broadcast band from 530 to 1600 kc.

Operates from 110-volt line, either AC or DC. Has one RF amplifier stage and two tuned circuits including the detector.

All parts required for construction of this little receiver are furnished in the complete kit of parts. Tubes and speaker, however, are not supplied. Tubes required are: 1—6K7, 1—6J7, 1—25A6 and 1—25Z6; speaker should be a 5″ magnetic or P-M dynamic with output transformer to match a single 25A6 output tube.

No. 10-1105A—4-Tube AC-DC T.R.F. Kit.............**List Price $18.00**

5-TUBE AC T.R.F. KIT



A low-cost, T.R.F. receiver that is surprisingly simple and easy to build and yet provides remarkable performance. Operates from 110-volt, 50- to 60-cycle lines and covers Broadcast band between 530 and 1600 kc (187 to 565 meters).

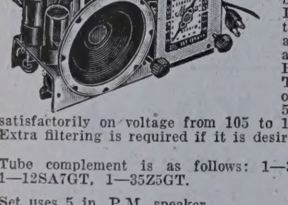
Two stages of tuned Radio-frequency amplification; 3 tuned circuits including the detector stage. 3-gang, precision tuning condenser, 4″ round vernier dial, manual volume and tone controls. Requires 2—6K7, 1—6J7, 1—6F6 and 1—5Y4G tubes; also requires a 6″ dynamic speaker with field resistance of 1500 to 2000 ohms and output transformer to match a single 6F6.

Complete Kit includes absolutely all parts except tubes and speaker. Even includes hook-up wire and solder. Clear, step-by-step printed instructions. Famous Meissner Pictorial Diagrams.

No. 10-1106—5-Tube A-C T.R.F. Complete Kit...........**List Price $25.75**

6 TUBE AC-DC KIT

TWO BAND SUPERHETERODYNE



An outstanding example of Meissner Engineering!

The Meissner 6 tube AC-DC, No. 10-1199 kit was designed to answer the requirements of a high grade, two band, low cost receiver.

It has a high impedance primary antenna coil wheih permits the use of almost any length of antenna available. It also has one stage of untuned R.F. and an I.F. wave trap.

This receiver covers a frequency range of 530 K.C. to 1650 K.C. and from 5.7 M.C. to 18 M.C. and will operate satisfactorily on voltage from 105 to 125, either D.C. or 50-60 cycles A.C. Extra filtering is required if it is desired to operate on A.C. below 50 cycles.

Tube complement is as follows: 1—35L6GT, 1—12SQ7GT, 2—12SK7GT, 1—12SA7GT, 1—35Z5GT.

Set uses 5 in. P.M. speaker.

Everything necessary to complete the construction of this receiver and place it in operation is included in the kt. The loop antenna is already wound, tubes and speaker are included—absolutely nothing else to buy! Detailed instructions any one can use!

★ COMPLETE INSTRUCTION MANUAL ★

the NEW
Meissner
"How to Build"
INSTRUCTION MANUAL
1941 EDITION
PRICE FIFTY CENTS

Completely revised and brought up to date, this new edition of the Meissner Instruction Manual contains reprints of the actual constructional data and operating suggestions that are included with all of the Meissner Kits and wired units. Many new pages containing interesting and educational material on Frequency Modulation, Coil Design, Servicing Problems and Amateur Station operation! 168 pages — 8½ by 11 inches — sturdy two-color cover—indispensable to the experimenter!

1941 Instruction Manual..........Net Price $.50

MEISSNER KIT GUARANTEE

When you build a radio receiver from a Meissner kit of parts exactly in accordance with the Meissner Pictorial Diagram and Instructions, that receiver will either work satisfactorily or you have the privilege of shipping it (prepaid) to the Meissner plant for inspection and mechanical or electrical adjustment. If the fault is due to a defective part, or to an error in instructions or diagram, no charge whatsoever will be made for putting that receiver in perfect operating condition.

7-TUBE "UTILITY" SUPER KITS

Four 7-tube "Utility" Super Kits have been designed for the easy construction of receivers having maximum performance for a set of this size. They will, in many cases, outperform sets having a greater number of tubes. Ideal replacement units to modernize old cabinets; all components are of highest quality although the kits are very moderate in price.

Steel cabinets and panels are available for these sets, but are not furnished with kits. Kits also do not include tubes and speaker. An 8″ dynamic speaker is recommended, having a field resistance of 1500 to 2000 ohms and equipped with an output transformer to match a single 6V6.

Easy to Build with Complete Kits

Anyone can build one of these fine 7-tube receivers. Complete Kit includes all parts required for completion of set, except tubes and speaker. Tubes required: 2—6K7, 1—6A8, 1—6Q7, 1—6V6, 1—6G5 and 1—5Y4G. Detailed instructions include famous Meissner Pictorial Wiring Diagrams.

	List Price
No. 10-1103—7-Tube "Utility" Super, Broadcast Model	$38.75
No. 10-1104—7-Tube "Utility" Super, B-C and S-W Model	43.50
No. 10-1110—7-Tube "Utility" Super Broadcast, Police and Short-Wave Model	47.75
No. 10-1111—7-Tube "Utility" Super, Broadcast, Long-Wave and Short-Wave Model	47.75
No. 11-8215—Front Panel for Broadcast Model, 10″ x 14″, black crystal steel	2.00
No. 11-8217—Front Panel for all other Models, 10″ x 14″, black crystal steel	2.00
No. 11-8212—Cabinet for all Models, 10″ x 14″ x 11″, black crystal steel	5.00

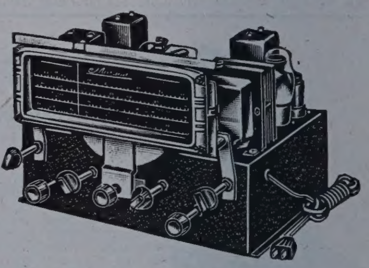
7-Tube Super "Essential" Kits

Include all Antenna, RF and Oscillator coils, I-F Transformers, band-switch, tuning condenser, dial, padding condensers and other special parts together with same detailed instructions as supplied with regular Complete Kits. All other necessary parts are clearly indicated on Parts List and are readily available from general stock.

No. 12-1022—Essential Kit for Broadcast Model	**List Price** $18.25
No. 12-1023—Essential Kit for BC and SW Model	**List Price** 27.50
No. 12-1024—Essential Kit for BC-Pol-SW Model	**List Price** 30.50
No. 12-1025—Essential Kit for BC-LW-SW Model	**List Price** 30.50

8-TUBE "COMBINATION"

Semi-Communications Receiver



A complete kit that builds a real "Combination Receiver"—includes a beat-frequency oscillator for copying CW signals or to help in tuning weak short-wave stations. Frequency coverage begins with Broadcast band and extends down through 10-meter Amateur band to 7.1 meters! Continuous coverage from 540 kc to 42.3 mc in four bands; coil assembly completely wired with range switch and pre-aligned. Single I-F stage uses Ferrocart iron - core transformers. Diode second detector and high-mu triode first audio, resistance-coupled to single 6V6 output tube. Controls provided include manually operated Sensitivity, Tone and Volume. Tip jacks at rear of chassis provide connections for headphones; AVC-BFO and Stand-by Switches are also incorporated.

In Complete Kit Form

Complete Kit contains absolutely all parts necessary, except tubes and speaker. Speaker should be an 8″ or 10″ dynamic with 1500 to 2000-ohm field and output transformer to match a single 6V6. Tubes required: 2—6K7, 1—6J7, 1—6L7, 1—6C5, 1—6Q7, 1—6V6 or 6V6G and 1—5Y4G. Detailed instructions for assembly and wiring include Schematic and Pictorial Wiring Diagrams which show parts clearly in their exact location on chassis. Anyone with the ability to handle a soldering iron may easily build this versatile set!

	List Price
No. 10-1116—8-tube "Combination" Super, Complete Kit less Tubes and Speaker; without Panel and Cabinet	$67.50
No. 10-1164—8-tube "Combination" Super, Complete Kit less Tubes and Speaker; with Panel and Cabinet	78.50
No. 11-8228—Front Panel, Black crystal finish steel, 15″ x 10¾″	3.85
No. 11-8229—Cabinet, Black crystal finish steel, 15″ x 10¾″ x 11½″	8.25

8-Tube Super "Essential" Kit

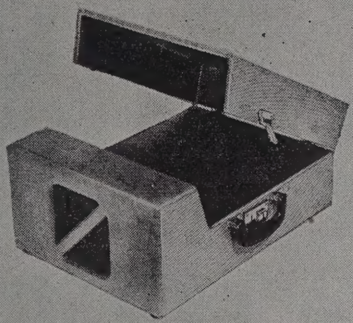
In order to enable the Serviceman or Custom Set-Builder to construct this receiver at the lowest possible cost, this Essential Kit is offered in addition to the Complete Kits described above. Parts furnished include punched chassis, pre-aligned RF coil assembly, input and output I-F transformers, beat-frequency oscillator transformer, tuning condenser, dial, switches and other special parts. Detailed assembly and wiring instructions with schematic and pictorial wiring diagrams. Remaining parts necessary are available from general stock.

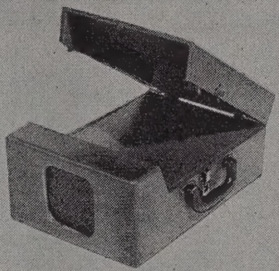
No. 12-1026—Essential Kit.............................**List Price $47.50**

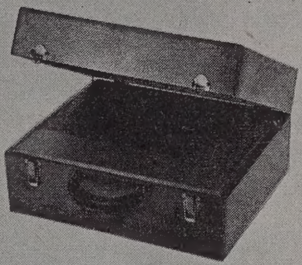
NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner PRECISION-BUILT PRODUCTS

RMS RADIO AND PHONO CABINETS


RMS PORTABLE PHONO & AMPLIFIER P.A. 12


RMS PORTABLE PHONO & AMPLIFIER P.A. 10

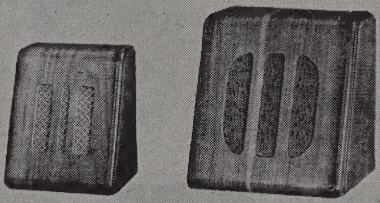

RMS PORTABLE PHONOGRAPH P.C. 1012

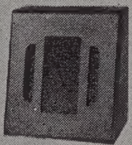
RMS

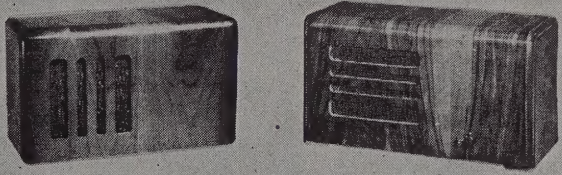
Cabinets are known for their sturdy construction and fine apearance . . . They are made in two finishes, Genuine Walnut Veneers and Leatherette . . . RMS makes many other items not illustrated here, as well as Special Orders for the Radio and Communications fields.

Send for illustrated catalog of complete line and specifications

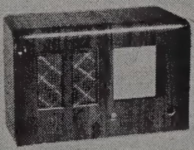
RADIO MERCHANDISE SALES


RMS WALL TYPE SPEAKER BAFFLES IN 5 SIZES—5″, 6″, 8″, 10″, 12″


SAME 5 SIZES IN LEATHERETTE


RMS BLANK CABINETS IN FIVE SIZES. No. 1—No. 5

RMS EXACT REPLACEMENT CABINETS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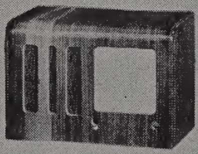
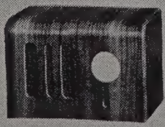
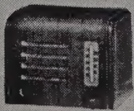
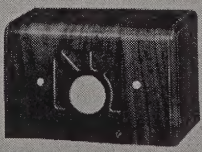

CROSLEY 52-TD

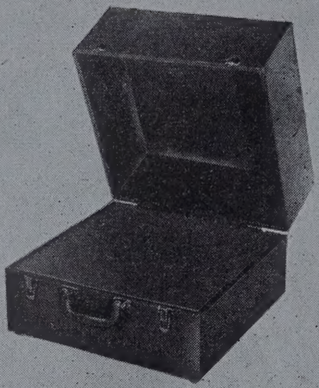
DETROLA JR.

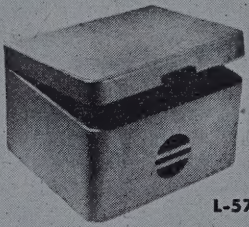

DETROLA 443

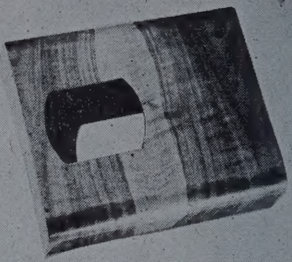

EMERSONETTE


EMERSON U-4B-199

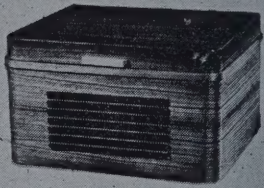
RADIO AND PHONO CABINETS


RMS P.A.C. 100—RECORD CHANGER

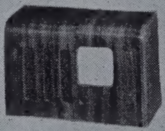

RMS RECORD PLAYER R.P. 100


L-577

RMS PHONO CABINETS
(TABLE MODELS)


TMW 100

RMS EXACT REPLACEMENT CABINETS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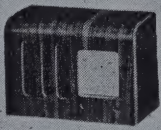
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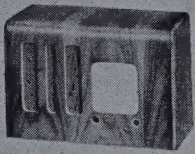
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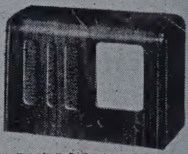
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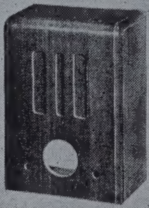
ALSO 330 7BW CR 414 DW330B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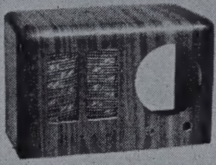
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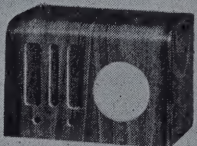
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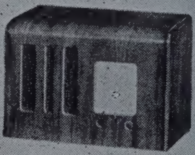
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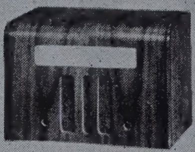
ALSO L-56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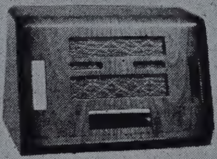
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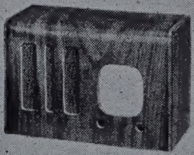
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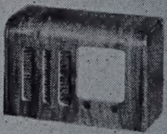
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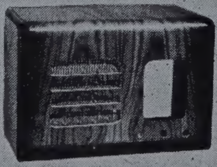
ALSO 40-115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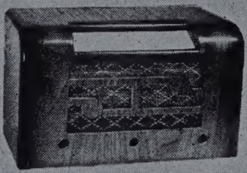
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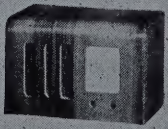
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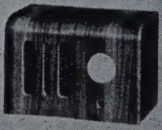

RCA—9TX

RACON

UNITS TRUMPETS

PERMANENT MAGNET HORN UNITS

All Permanent Magnet units use the finest grade of Alnico steel magnets and Armco iron throughout. All steel parts cadmium-plated to prevent corrosion. Units are magnetized, using an electromagnetic cutout switch which gives the maximum flux density obtainable in the gap. All magnets are measured for flux density and each unit is tested with special machines for power handling capacity as well as 300 volt ground-test, making for uniformity and ability to withstand all types of service. All units are supplied with corrosion-proof metal diaphragms or plastic diaphragms on request, without extra charge. Voice coil impedance on all units: 15 ohms. Special ohmages on request.

STANDARD P-M UNITS

Using Alnico Blue Dot Magnet

SUPER GIANT

Operating capacity at 250 cycles....25 watts
at 110 cycles....10-12 watts
130 oz. Alnico Magnet.
Flux density........15,000 gausses per sq. cm.
Total weight................................17 pounds
Code: REVUM..................List Price $65.00

GIANT

Operating capacity at 250 cycles....25 watts
at 100 cycles....10-12 watts
104 oz. Alnico Magnet.
Flux density........14,000 gausses per sq. cm.
Total weight................................13 pounds
Code: REVUX..................List Price $52.50

MASTER

Operating capacity at 250 cycles....25 watts
at 100 cycles....10 watts
60 oz. Alnico Magnet.
Flux density......12,000 gausses per sq. cm.
Total weight.................................9 pounds
Code: REVUE..................List Price $42.50

JUNIOR

Operating capacity at 250 cycles....20 watts
at 100 cycles......8 watts
46 oz. Alnico Magnet.
Flux density......10,000 gausses per sq. cm.
Total weight................................7¾ pounds
Code: REVAT..................List Price $32.50

BABY

Operating capacity at 300 cycles....10 watts
17 oz. Alnico Magnet.
Flux density........8,000 gausses per sq. cm.
Total weight.................................3 pounds
Code: REVEL..................List Price $18.00

(Coupling included for attachment to standard horns, if desired. *Net price 40c additional.)

NEW! SUPER X UNITS

USING LATEST ALNICO V

MAGNUM GIANT

Operating capacity at 250 cycles....25 watts
at 110 cycles....10-12 watts
Flux density........17,000 gausses per sq. cm.
Total weight..............................8½ pounds
Code: RETUF..................List Price $70.00

SENIOR GIANT

Operating capacity at 250 cycles....25 watts
at 110 cycles....10-12 watts
Flux density........15,000 gausses per sq. cm.
Total weight.................................8 pounds
Code: RETAX..................List Price $57.50

BABY GIANT

Operating capacity at 250 cycles....25 watts
at 110 cycles....10-12 watts
Flux density........11,000 gausses per sq. cm.
Total weight..............................3½ pounds
Code: RETIL..................List Price $32.50

JUNIOR GIANT

Operating capacity at 250 cycles....25 watts
at 110 cycles....10-12 watts
Flux density........13,000 gausses per sq. cm.
Total weight..............................6½ pounds
Code: RETOT..................List Price $47.50

DWARF

Operating capacity at 500 cycles......5 watts
Frequency to 12,000 cycles.
Flux density..........8,000 gausses per sq. cm.
Total weight.................................1 pound
Code: REDOW..................List Price $18.00

DIAPHRAGM REPLACEMENTS

		Net Price
Code: RUTEX	Type A Diaphragms only	$2.60*
Code: RUVEX	Type B Diaphragms only	3.60*
Code: RUZEN	Type A Head Assembly (including diaphragm) Theatre Type	4.25*
Code: RUZUR	Type B Head Assembly (including diaphragm) General PA Type	5.25*
Code: RUBUF	Type A High Fidelity Head Assembly (including diaphragm)	6.00*

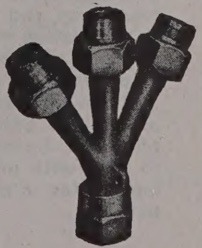
MULTIPLE HORN COMBINATIONS

Connectors made of heavy cast bronze with loose couplings for unit connection.

Combinations of two or three trumpet horns driven by one unit through properly designed connectors, will be found very efficient and flexible for public address service. Wider coverage can be obtained from the same power level, and frequency response is improved since the low-frequency cut-off is a product of the total bell area of all the horns.

Double Connector — Dispersion angle 75°
Code: RADIX..List Price $15.50

Triple Connector — Dispersion angle 105°
Code: RACER..List Price $21.00

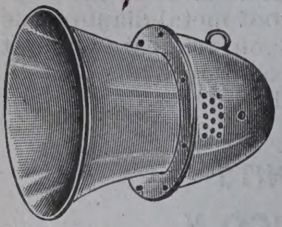


40 (Except*)

UNITS
RACON
TRUMPETS

ARMORED CONE SPEAKER PROJECTORS

ARMORED CONE PROJECTOR



An efficient heavy gauge steel and aluminum projector for dynamic cone speakers. Rugged and suitable for indoor or outdoor use. Steel back enclosure and heavy gauge aluminum bell with waterproof overlap. Provided with mounting hook and mounting holes. For use with 12″ cone speakers. Overall length 20″. Bell diameter 17″.

Code: RUMID..**List Price $10.00**

All steel projector (steel back and steel bell).

Code: RUMIS..**List Price $11.00**

Projector with aluminum bell and steel back, acoustically damped and cone opening protected by wire screening and silk gauze.

Code: ROBOT..**List Price $12.50**

ARMORED CONE PROJECTOR

For use with 8″ cone speakers. Overall length 15″. Bell diameter 15″.

Code: RUMIX........**List Price $8.00**

Above with steel back, acoustically damped with heavy sound absorbing material, and cone opening protected by wire screening and silk gauze.

Code: RIFLE........**List Price $10.00**

All steel projector; steel back and bell.

Code: RUMIL........**List Price $9.00**

STEEL SWIVEL BRACKETS FOR CONE PROJECTORS

For wall or truck mounting, with tooth ratchet swivel to give 180° angular movement; with or without stand, to attach to standard pipe.

For Cone Projectors

Without Base
Code: RAMIS
List Price $3.00

With Base
Code: RAMIT
List Price $4.50

For 12″ or 8″ Cone Marine

Without Base
Code: RAMUN
List Price $3.00

With 11½″ Base
Code: RAMUB
List Price $5.00

? ? ?

Important Announcement

RACON, the outstanding manufacturer of small diaphragm units and horns, has at last evolved a sound projector with the perfect distribution over a maximum angle.

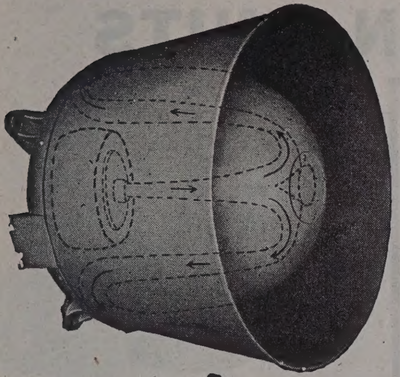
It is known in the art that straight axis projectors have a distribution pattern the angular width of which varies almost inversely as the frequency, with the maximum angle of distribution at the low frequency and the minimum angle at the high frequency.

So-called "Radial Horns" have a distribution along the radial axis approximately the same as straight axis projectors but with a lower intensity and with the disadvantage of having a so-called "Hot Spot" of sound at right angles to the radial axis.

Now, at last, RACON is proud to present a new principle of construction, PATENTED, that not only gives uniform distribution over the complete frequency range, but gives a greater angle of distribution. Speakers can be supplied to give a predetermined angular distribution of all frequencies up to 180° with uniform intensity, or can be supplied with a varying angle of intensity in two planes perpendicular to each other—180° in one plane and 90° in the other, with whatever variations are desired between.

WATCH FOR ANNOUNCEMENT OF RELEASE.

UNITS
RACON
TRUMPETS



BULL MARINE SPEAKER

A large re-entrant type of horn, 28″ diameter, 21″ deep, made of heavy aluminum casting and Racon unbreakable bell and centre section. Will withstand extremely high wattages without vibration.

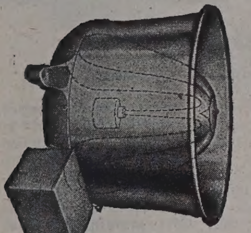
Designed to operate with Racon Bull unit for 50 watts, with 4 Racon Marine units for 100 watt operation, or 2 Racon Marine units for 50 watt continuous operation. Cut-off 125 cycles.

List Price

Code: REDUL REVUL—Bull Horn with Bull Unit complete, 50 watt operation; wt. 120 lbs. **$525.00**
Code: RADOF REVUE—Bull Horn with 4 Marine Units complete, 100 watt operation; wt. 118 lbs. **490.00**
Code: RADOT REVUE—Bull Horn with 2 Marine Units complete, 50 watt operation; wt. 91 lbs. **400.00**

MARINE SPEAKER

Approved by the Bureau of Marine Inspection and Navigation, Department of Commerce, for all Emergency Loudspeaker Systems on ships, under the 53rd Supplement of the Bureau, after tests made by the Bureau of Standards, Washington, D.C.



The latest speaker in Marine Practice! A double re-entrant type of horn, 14″ in diameter, 10″ deep—having a base of heavy aluminum casting and heavy aluminum spinning. Uses a Racon Master Unit. The driving Unit and connections are all enclosed, making a completely waterproof speaker not affected by temperature or weather, including use on sea even during storms!

This Marine Speaker is used both as a **Loudspeaker** and as a **Microphone.** It will pick up sound outdoors from distances up to 100 feet with very small amplifying gain, and will deliver 100 DB of sound 10 feet from the horn with an input of approximately one watt! Cut-off 250 cycles.

Makes an ideal speaker not only for Marine work but also for general P.A. use, where a highly concentrated sound for great distance is required.

Code: REDIX—Complete with unit; weight 25 lbs. Special non-corrosive Aluminum castings; Baked Chromatic Undercoat Finish plus outside lacquer finish. .... **List Price $106.25**

MIDGET MARINE SPEAKER

Approved by the Bureau of Marine Inspection & Navigation, Dept. of Commerce, for ship use. A double re-entrant type horn, 9¼″ diameter, 6¾″ deep. Uses a Racon Junior P.M. unit. Built as sturdily as the regular Marine speaker but smaller in size. A highly efficient and directional P.A. speaker. Cut-off 350 cycles.

Code: RASOM—Marine Speaker, complete with Junior unit; weight 10½ lbs. .... **List Price $52.50**
Code: RASOB—Marine Speaker, complete with baby unit; weight 7½ lbs. .... **List Price $37.50**

MINIATURE MARINE SPEAKER

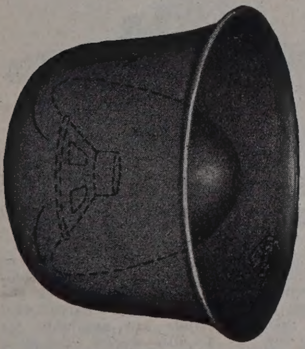
Approved by the Bureau of Marine Inspection & Navigation, Dept. of Commerce, for ship use. A miniature re-entrant type of horn, similar in design to the above Marine speakers. Bell diameter 6¼″, depth 4¾″. Uses a Racon Baby Unit. Ideal where a highly efficient and directional speaker is required to occupy a small space and where voice reproduction must overcome high noise levels. Cut-off 500 cycles.

Code: REDUP—Miniature Marine Speaker, complete with unit; Weight 5¼ lbs. .... **List Price $27.50**

All marine speakers (except Miniature) can be supplied blast-proof against concussion due to gunfire at additional cost of $5.00 each net. — Specify B.P.X. after speaker when ordering.

CONE MARINE SPEAKER

IN ALL RACON CONE MARINE SPEAKERS bell is made of heavy gauge aluminum; cone mounting is made of aluminum casting; and center bullet is made of RACON ACOUSTIC material to prevent resonant effects. Material is stormproofed for all weather conditions.



A re-entrant speaker of the marine type, for cone operation. . . . Owing to its unusual construction, this speaker can be used outdoors as well as indoors, in all weather and temperatures, without impairment. . . . The cone diaphragm is protected not only from direct contact with rain but also from physical damage. Can be used for voice as well as musical reproduction.

FOR 12" CONE

Bell Diameter	24″
Depth	15″
Weight	10 lbs.

Code: RELIM

List Price, without speaker **$32.50**

FOR 5" CONE*

Bell Diameter	10½″
Depth	8½″
Weight, without speaker	2¼ lbs.

Code: REKIM

List Price, without speaker **$9.50**

FOR 8" CONE

Bell Diameter	17½″
Depth	11½″
Weight	4½ lbs.

Code: REFIM

List Price, without speaker **$17.50**

FOR 4" and 3" CONE

Bell Diameter	7¼″
Depth	5¼″
Weight	2¼ lbs.

Code: REPIM

List Price, with speaker **$10.50**

***NOTE: 5″ and 4″ Cone Marine supplied with bracket without charge.**

UNITS
RACON
TRUMPETS

TRUMPETS for HORN UNITS

ACOUSTIC TRUMPETS

Trumpets are made of Racon patented acoustic non-vibratory material. Stormproof models are guaranteed for life as waterproof in outdoor use in all climates and weathers, including immersion in water. Brass loose couplings for easy unit attachment. For voice or band music.

3½-Foot Regular Model

Equipped with rolled-metal beaded edge, metal ferrule and suspension ring. Adapted for ⅞-18″ or 1⅜-18″ threaded unit. Weight 6½ lbs. 22″ diameter.

Code: RELAY....................List Price $27.50

De Luxe Type—Equipped with rolled-metal beaded edge, reinforced cast-aluminum tone-arm, and suspension ring. For indoor use. Weight 10 lbs.

Code: REMIT....................List Price $35.00

Stormproof Type—Equipped same as De Luxe. Waterproof. Weight 12 lbs.

Code: RENEW..................List Price $50.00

4½-Foot Trumpet

Equipped with rolled-metal beaded edge and 25″ cast-aluminum throat. Demountable into two sections, which can be quickly assembled or disassembled.

De Luxe Type—Weight 16 lbs.

Code: RANCH....................List Price $52.50

Stormproof Type—Weight 18 lbs.

Code RACEY....................List Price $71.00

6-Foot Trumpet

Equipped with rolled-metal beaded edge, 34″ cast-aluminum throat, and suspension eyelets. Bell 30″ diameter.

De Luxe Type—Weight 18 lbs.

Code: RHYME..................List Price $72.50

Stormproof Type—Weight 23 lbs.

Code: RIDER....................List Price $90.00

ALL ALUMINUM TRUMPETS

All trumpets made of 12-gauge aluminum with cast-aluminum throat sections and cast-aluminum clamping edges, with reinforced bell. Brass loose coupling for easy unit attachment. For voice as well as musical reproduction.

6-Foot Trumpet

Bell 30″ diameter. Demountable into three sections. Weight: 19 lbs.

New Single-Unit Type—34″ cast throat.
Code: RHINO....................List Price $75.00
New Two Single-Unit Type.
Code: RHOMB..................List Price $82.50

4½-Foot Trumpet

Demountable into 2 sections. 25″ cast throat. Bell: 25″. Weight: 11 lbs.

Single-Unit Type
Code: RIANT....................List Price $55.00
Two-Unit Type
Code: RIBES....................List Price $62.50

3½-Foot Trumpet

Demountable into 2 sections. 10″ cast throat. Bell: 22″. Weight: 7 lbs.

Code: REPEX....................List Price $30.00

UNBREAKABLE REINFORCED TRUMPETS

Made of Racon acoustic stormproof material, reinforced throughout. Guaranteed unbreakable. The last word in trumpet design and particularly adaptable where high quality and high efficiency is required, with the ability to withstand the roughest handling without breakage. Loose coupling for unit attachment.

4½-Foot Trumpet

Demountable into 2 sections. 25″ cast throat. Bell: 25″. Weight: 15 lbs.

Code: REFIX....................List Price $85.00

6-Foot Trumpet

Demountable into three sections. Equipped with 34 inches of aluminum throat casting.

Single Unit Type
Code: REGON..................List Price $110.00
Two-Unit Type
Code: REGAY..................List Price $117.50

PAGING HORN

Acoustic Model

A small, extremely efficient 2-foot trumpet speaker, for use where highly concentrated sound is required to override high noise levels, such as in factories, outdoors, etc. Particularly adaptable for paging systems, hotel lobbies, trucks, etc.

Made of acoustic non-vibratory material as per Racon patents. Cast aluminum throat section.

Bell diameter 12″. Overall length 24″.

Stormproof Type—Guaranteed for life as waterproof in outdoor use, in all climates and weather, including immersion in water.
Code: RISAT....................List Price $16.00

Indoor Type—Indoor use only.
Code: RIKAL....................List Price $12.50

All Metal Type.
Code: RIMAD....................List Price $13.00

PERMANENT MAGNET HIGH FREQUENCY UNIT

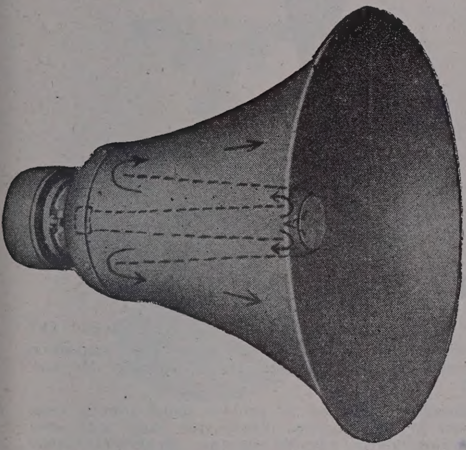
An efficient and precision built unit, to meet the latest requirements for wide-range reproduction. Designed to cover the frequency band from 3,000 to 12,000 cycles. Special models are available for response up to 18,000 cycles. Supplied with horn, (as shown) and mounting bracket, (not shown). Designed to operate in conjunction with a suitable low frequency speaker (cone or horn type) in order to give high fidelity reproduction in the wide-range audio frequency band. Not made to operate below 3,000 cycles.

Voice Coil impedance 15 ohms.

Code: RABAT—Complete with Unit
List Price $25.00

UNITS
RACON
TRUMPETS

RE-ENTRANT TRUMPETS



A compact trumpet of the double re-entrant type, made to occupy a small space, yet has a long air column, delivering highly concentrated sound with the greatest efficiency over long distances.

Standard P.M. Units can be used, from the Baby size to the Super Giant size.

ALL RACON RE-ENTRANT SPEAKERS have base and inside tone arm made of aluminum castings, outside bell of heavy gauge aluminum spinning, and center reflecting section of RACON ACOUSTIC material to prevent resonant effects prevalent in all metal reflecting surfaces. Sturdy construction makes them practically abuse-proof.

Swivel ratchet mounting bracket supplied without charge. Can be attached to ½″ or 1¼″ pipe.

Made in four sizes:

6 FT. RE-ENTRANT

Bell Diameter	25½″
Overall Length	28″
Weight	20 lbs.

Code: REMOL

List Price	**$55.00**

4½ FT. RE-ENTRANT

Bell Diameter	24½″
Overall Length	23½″
Weight	11 lbs.

Code: REMOM

List Price	**$42.50**

3½ FT. RE-ENTRANT

Bell Diameter	18″
Overall Length	16″
Weight	7 lbs.

Code: REMOX

List Price	**$27.50**

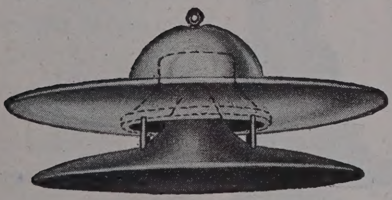
2½ FT. RE-ENTRANT

Bell Diameter	12¾″
Overall Length	16″
Weight	4¾ lbs.

Code: REMOD

List Price	**$22.50**

RADIAL CONE SPEAKER



A radial speaker for cone operation.

This speaker is designed to project sound over a complete circumference of 360°, distributing the sound with even intensity and bringing out the high response lacking in direct cone horns.

Particularly adapted for use on trucks and in auditoriums where complete coverage is desired.

Can be camouflaged to blend with ceiling architecture.

IN ALL RACON RADIAL CONE SPEAKERS, the upper deflector is made of heavy gauge steel, cone covering of steel, and lower deflector of RACON ACOUSTIC material to prevent resonant effects prevalent in all metal reflecting surfaces, and storm-proofed for all weather conditions.

FOR 12" OR 10" CONE

Reflector diameter	31″
Depth	14″
Weight	10 lbs.

Code: RADAG

List Price, without speaker	**$27.50**

FOR 6" OR 5" CONE

Reflector diameter	17″
Depth	7″
Weight	3½ lbs.

Code: RADAC

List Price, without speaker	**$9.50**

Code: RASAY

List Price, with 5″ speaker	**$13.50**

UNITS
RACON
TRUMPETS

CELLULAR HORN

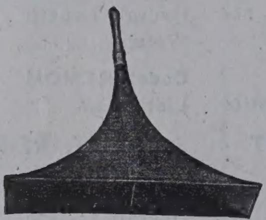
A new type of cellular horn for operation between 350 and 12,000 cycles, with an angular distribution of 60 degrees.

Uses a highly efficient P.M. Unit with a patented phase cancellation compensating device, reproducing all frequencies without cancellation effects.

Made only in blocs of 4 cells—of Racon unbreakable material, having heavy aluminum throat castings and unbreakable bell sections.

Overall length 32½". Total bell opening 12" x 12". Weight 18½ pounds.

	List Price
Code: RAGAM—Cellular Horn with Master Size Unit..........	$135.00
Code: RAGOT—Cellular Horn with Giant Size Unit..............	145.00



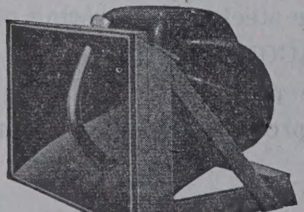
6-FT. FLAT BELL TRUMPET

This trumpet has been developed to meet special conditions where the height or width available are insufficient for the standard round bell horns. It is acoustically equal to the standard circular bell 6 Foot Trumpet. The bell section, however, is 12" in height by 51" wide. This horn is particularly suited for truck mounting and for interior work such as above or on the sides of stages.

All types equipped with double cross braces, cast aluminum throat sections semi-demountable, and loose couplings for unit attachment.

DELUXE INDOOR TYPE—Weight 24 lbs.
Code: ROGUE ....**List Price $72.50**

STORMPROOF TYPE—Weight 28 lbs.
Code: ROBIN ....**List Price $95.00**



AUDITORIUM HORN

A 7 foot length horn folded to occupy a space 21½" x 26½" x 23½".

An excellent horn for auditoriums, small theatres, portable talkie equipment, etc., and for mounting in the proscenium arch of a large theatre. Small in size and light in weight.

A departure in standard horn design, giving excellent musical as well as speech reproduction out of all proportion to the small size of the horn.

DeLuxe Type for indoor use. Weight 25 lbs.
Code: ROOST (horn only). **List Price** **$66.00**

Storm-proof Type, guaranteed for all climates and weather. Weight 29 lbs.
Code: RETRO (horn only). **List Price** **$88.00**

RADIAL HORN

Width 43" Height 50"

Equipped with cast aluminum throat, cold rolled steel suspension brackets, reinforced edge. Demountable. Loose couplings for easy unit attachment.

This horn is accurately designed to project sound over a complete circumference of 360 degrees, distributing same with even intensity. It is particularly adapted for use on trucks, tower equipment, churches, amusement parks and general public address use where a complete circumferential coverage is desired.

2 Unit Radial Horn

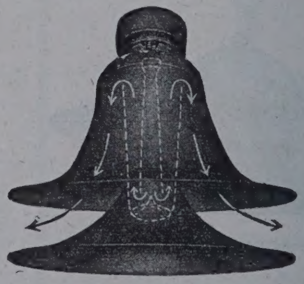
RADIAL Horn only, STORMPROOF
Weight 60 lbs. without units and brackets.
Code: ROUND...**List Price $275.00**

RADIAL Horn only, REGULAR—For indoor use
Weight 55 lbs. without units and brackets.
Code: RUSAN...**List Price $225.00**

4 Unit Radial Horn

RADIAL Horn only, STORMPROOF
Weight 68 lbs. without units and brackets.
Code: RADAH...**List Price $340.00**

RADIAL Horn only, REGULAR—For indoor use
Weight 63 lbs. without units and brackets.
Code: RUSHY...**List Price $275.00**



RADIAL HORN SPEAKER

A 3½ foot re-entrant type horn designed to project sound over a complete circumference of 360°, distributing the sound with an even intensity. For all sound installations where complete coverage is desired.

Base and tone arm made of heavy aluminum castings, center deflector and deflecting bells made of RACON ACOUSTIC material to prevent all resonant effects. Material storm-proofed and guaranteed against all weather conditions. Brass loose couplings for easy unit connection.

Uses standard RACON Units.

Width 17" Height 15" Weight 7 lbs.
Code: RADAK. List Price...**$37.50**

UNITS **RACON** **TRUMPETS**

MULTIPLE UNIT HORNS

4½ FOOT AEROPLANE HORN

Bell 24″ diameter. Length 42″.

Requires an overall width of 39″ to clear Super-Giant Units when mounted.

Equipped with cast aluminum throat section, rolled metal beaded edge, loose couplings for units, and suspension ring. Demountable. Specially developed for installations where space is limited and weight factor small.

2 Unit Type

DELUXE—Indoor type. Weight 18 pounds.

Code. REPAY......List Price $60.00

STORMPROOF. Weight 20 pounds

Code: RECUE......List Price $82.50

4 Unit Type (Illustrated)

DELUXE—Indoor type. Weight 23 pounds.

Code: REGUS......List Price $90.00

STORMPROOF. Weight 25 pounds

Code: RELAX....List Price $115.00

4 UNIT AEROPLANE HORN

Bell 30″ diameter.
Length overall 54″.

STORMPROOF. Rolled metal beaded edge. Heavy cast aluminum throat section. Loose couplings for unit. Suspension ring. Demountable.

Equipped to operate 4 Units.

An extremely powerful and efficient Public Address Aeroplane Horn for long range projection.

Two mile ground projection capacity.

Weight 30 pounds.

Code: RECUR....List Price $200.00

9 UNIT AEROPLANE HORN

Bell 30″ diameter.
Length overall 54″.

STORMPROOF. Rolled metal beaded edge. Heavy aluminum throat section. Loose couplings for units. Suspension ring. Demountable.

Equipped to operate with 9 Units.

A super-powerful and efficient Public Address Horn for extreme long range projection.

Three mile ground projection capacity.

Weight 48 pounds.

Code: RABIB....List Price $335.00

STORMPROOF TYPE GUARANTEED WEATHERPROOF INCLUDING IMMERSION IN WATER

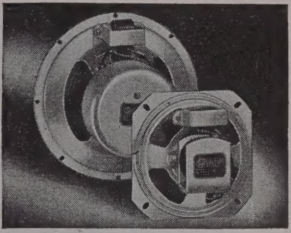
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

QUAM SPEAKERS with *Interchangeable* Transformers

QUAM *Senior* ELECTRO-DYNAMICS



The problems of service engineers became the problems of our engineers when planning the QUAM line of replacement speakers. Every possible situation that might confront the engineer in the field was taken into consideration. We sincerely believe that our success in solving these problems is indicated by a study of the various features that make the line distinctive. The field coils of QUAM Senior Electro Dynamic speakers are enclosed in Fire Underwriter's Approved metal shields. This provides weather proofing and protection from mechanical injury. Universal mounting brackets are supplied with the 4", 5", 5½" and 6½" speakers. The field coil pots are drilled and tapped for mounting direct to the chassis, or on a bracket. Each speaker may be installed with minimum effort.

MODEL 40S **4" Standard**
Rating 3.5 watts. Dustproofed. 10″ leads. Dimensions: Dia., $4\frac{3}{32}$″ Square basket; Mtg. Dia., $4\frac{11}{16}$″; Depth, $2\frac{19}{64}$″. Ship. Wgt., 1¾ lbs. Model 40SM—Same as 40S EXCEPT depth $2\frac{1}{32}$″.

MODEL 50S **5" Standard**
Rating 3.5 watts. Dustproofed. 10″ leads. Dimensions: Dia., 5″ Round basket; Mtg. Dia., $4\frac{11}{16}$″; Depth, $2\frac{9}{16}$″ Ship. Wgt., 2 lbs.

MODEL 55S **5½" Standard**
Rating 4.5 watts. Dustproofed. 10″ leads. Dimensions: Dia., $5\frac{9}{16}$″ Square basket; Mtg, Dia., 6⅛″; Depth, $2\frac{39}{64}$″. Ship. Wgt., 2½ lbs.

MODEL 65M **6½" Modified**
Rating 4.5 watts. Dustproofed. 12″ leads. Dimensions: Dia., 6½″ Round basket; Mtg. Dia., 6⅛″; Depth, $2\frac{57}{64}$″. Ship. Wgt., 2½ lbs.

MODEL 65S **6½" Standard**
Rating 5.5 watts. Dustproofed. 15″ leads. Dimensions: Dia., 6½″ Round basket; Mtg. Dia., 6⅛″; Depth, $3\frac{19}{64}$″. Ship. Wgt., 2¾ lbs.

MODEL 80M **8" Modified**
Rating 6 watts. Dustproofed. 18″ leads. Coil pot cover. Dimensions: 8″ Round basket; Mtg. Dia., $7\frac{11}{16}$″; Depth, $3\frac{13}{16}$″. Ship. Wgt. 3 lbs.

MODEL 80S **8" Standard**
Rating 8 watts. Dustproofed. Coil pot cover. 18″ leads. Dimensions: 8″ Round basket; Mtg. Dia., $7\frac{11}{16}$″; Depth, $4\frac{7}{32}$″. Ship. Wgt., 4½ lbs.

MODEL 120S **12" Standard**
Rating 12 watts. Dustproofed. 24″ leads. Black finish with chromium pot cover. Dimensions: 12″ Round basket; Mounting Dia., $11\frac{9}{16}$″; Depth, $5\frac{29}{32}$″. Ship Wgt. 8½ lbs.

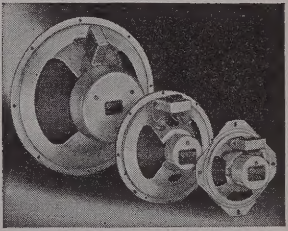
Field resistances are indicated by part numbers. Be sure to specify part numbers and model numbers when ordering.

Field	Models 40S	40SM	50S	55S	65M	65S	80M	80S	120S
3000 Ohms	43038	43038M	53038	553038	6M3038	63037	....	....	....
2500 Ohms	42537	42537M	52537	552537	6M2537	62536	8M2536	82535	122535
1800 Ohms	41836	41836M	51836	551836	6M1836	61835	8M1835	81834	....
1500 Ohms	....	....	....	....	....	....	....	....	121533
1000 Ohms	41035	41035M	51035	551035	6M1035	61034	8M1034	81033	121032
450 Ohms*	44533*	44533M*	54533*	554533*	6M4533*	64532*	8M4532*	....	....
6 Volt	4624	4624M	5623	55623	6M623	6622	8M622	8621	....

*Bucking Coil included.

Voice coil impedances on above speakers 4 ohms at 400 cycles. Transformer mounting brackets included on all speakers. See reverse side for matching transformers.

QUAM *Senior* P. M. DYNAMICS



Service and sound engineers have adopted QUAM **Senior** P. M. Dynamics as their standard. These units are designed to fill the demand for speakers with unusual power handling capacity. They have excellent frequency response characteristics. The arc welded construction used insures permanent alignment of integral parts. QUAM **Senior** P. M. Dynamics are suited for a wide range of installations such as AC and AC-DC sets, automobile sets and battery portables, home sets, public address systems, inter-office communication systems, and as auxiliary speakers. They do not require current for field excitation.

MODEL 40PM **4" 5 oz. Magnet**
Rating 3.5 watts. Completely dustproofed. Dimensions: Dia., $4\frac{3}{32}$″ Square basket; Mtg. Dia., $4\frac{11}{16}$″; Depth, $2\frac{1}{16}$″, Ship. Wgt., 2½ lbs.

MODEL 50PM **5" 5 oz. Magnet**
Rating 3.5 watts. Completely dustproofed. Dimensions: Dia., 5″ Round basket; Mtg. Dia., $4\frac{11}{16}$″; Depth, $2\frac{3}{16}$″. Ship. Wgt., 2½ lbs.

MODEL 55PM **5½" 8 oz. Magnet**
Rating 4.5 watts. Completely dustproofed. Dimensions: Dia., $5\frac{9}{16}$″ Square basket; Mounting Dia., 6⅛″; Depth, 2⅝″. Ship. Wgt. 2¾ lbs.

MODEL 65PM **6½" 8 oz. Magnet**
Rating 5.5 watts. Completely dustproofed. Dimensions: Dia., 6½″ Round basket; Mounting Dia., 6⅛″; Depth, $2\frac{57}{64}$″. Ship. Wgt. 2¾ lbs.

MODEL 80PM **8" 8 oz. Magnet**
Rating 7 watts. Completely dustproofed. Dimensions: Dia., 8″ Round basket; Mtg. Dia., $7\frac{11}{16}$″; Depth, $3\frac{13}{32}$″. Ship. Wgt., 3 lbs.

MODEL S80PM
8" 28 oz. Magnet
Rating 10 watts. Pot cover. Completely dustproofed. Dimensions: Dia., 8″ Round basket; Mounting Dia., $7\frac{11}{16}$″; Depth $3\frac{11}{16}$″. Ship. Wgt. 5¾ lbs.

MODEL D80PM **8" 48 oz. Magnet**
Rating 15 watts. Pot cover. Completely dustproofed. Dia., 8″ Round basket; Mtg. Dia., $7\frac{11}{16}$″; Depth, 4⅛″. Ship. Wgt., 7½ lbs.

MODEL M120PM **12" 28 oz. Magnet**
Rating 15 watts. Pot cover. Completely dustproofed. Dia., 12″ Round basket; Mtg. Dia., $11\frac{9}{16}$″; Depth, $5\frac{3}{32}$″. Ship. Wgt. 7 lbs.

MODEL 120PM **12" 48 oz. Magnet**
Rating 25 watts. Pot cover. Completely dustproofed. Dia., 12″ Round basket; Mtg. Dia., $11\frac{9}{16}$″; Depth, $5\frac{17}{32}$″. Ship. Wgt. 8½ lbs.

Voice coil impedances on 120 PM, M120PM, D80PM and S80PM, 6 ohms at 400 cycles. All other speakers shown above have 4 ohm voice coil impedance at 400 cycles. Transformer mounting brackets included on all speakers. See reverse side for matching transformers.

QUAM *Permanic* SPEAKERS

MODEL 40 **4" Permanic**
10″ leads. Dimensions: Dia., $4\frac{3}{32}$″ Square basket; Mounting Dia., $4\frac{11}{16}$″; Depth, $2\frac{9}{32}$″. Ship. Wgt. ¾ lb.

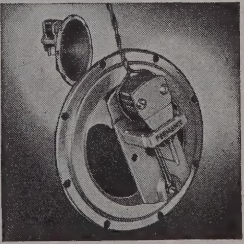
MODEL	TUBE IMPEDANCE
40L	Low
40M	Medium
40H	High
40C	500 ohm line

MODEL 50 **5" Permanic**
10″ leads. Dimensions: Dia., 5″ Round basket; Mounting Dia., $4\frac{11}{16}$″; Depth, $2\frac{13}{32}$″. Ship. Wgt. 1lb.

MODEL	TUBE IMPEDANCE
50L	Low
50M	Medium
50H	High
50C	500 ohm line

MODEL 65 **6½" Permanic**
10″ leads. Dimensions: Dia., 6½″ Round basket; Mounting Dia., 6⅛″; Depth, $2\frac{47}{64}$″. Ship. Wgt. 1½ lbs.

MODEL	TUBE IMPEDANCE
65L	Low
65M	Medium
65H	High
65C	500 ohm line



Check this listing of tube impedances for correct selections

LOW IMPEDANCE TUBES
(Order 40L, 50L or 65L)

Types 48 and 43 in push-pull, single types 43, 45, 59, 71A, 12A5, 25L6, 32L7, 50L6, 25B5 and for any type of output tube in single or push-pull having a total primary load impedance of 2000 to 6000 ohms.

MEDIUM IMPEDANCE TUBES
(Order 40M, 50M or 65M)

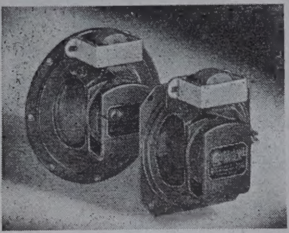
Types 43, 45, 71A in push-pull and single types 10, 12A, 18, 19, 20, 31, 33, 38, 41, 42, 43, 46, 47, 49, 59, 89, 2A5, 6A4, 6A6, 12A5, LA, GA, PZ, 1C5, 1Q5, 6K6, 6F6, 6C6 and for any type of output tube in single or push-pull having a total primary load imp. of 6000 to 12,000 ohms.

HIGH IMPEDANCE TUBES
(Order 40H, 50H or 65H)

Types 10, 12A, 18, 19, 20, 31, 33, 38, 41, 42, 46, 47, 79, 59, 89, 2A5, 6A4, LA, 6A6, in push-pull and for single types 38, 49, 12A7, 1A5, and for any type of output tube in single or push-pull having a total primary load impedance of 12,000 to 25,000 ohms.

QUAM SPEAKERS with *Interchangeable* Transformers

QUAM *Junior* Electro-Dynamics



The demand for lower priced replacement speakers carrying the full guarantee of the manufacturer resulted in the QUAM JUNIOR Replacement Line. These speakers are constructed of quality materials and give excellent performance characteristics. The finish is baked brown enamel.

MODEL 40J 4" Junior

Rating 2.5 watts. 10″ leads. Dimensions: Dia., 4$\frac{3}{32}$″ Square basket; Mounting Dia., 4$\frac{11}{16}$″; Depth 1$\frac{29}{32}$″. Ship. Wgt. 1¾ lbs.

MODEL 50J 5" Junior

Rating 2.5 watts, 10″ leads. Dimensions: Dia., 5″ Round basket; Mounting Dia., 4$\frac{11}{16}$″; Depth, 2$\frac{5}{32}$″. Ship. Wgt. 2 lbs.

MODEL 65J 6½" Junior

Rating 3.5 watts. 12″ leads. Dimensions: Dia., 6½″ Round basket; Mounting Dia., 6⅛″; Depth, 2¾″. Ship. Wgt. 2½ lbs.

MODEL 80J 8" Junior

Rating 4 watts. 15″ leads. Dimensions: Dia., 8″ Round basket; Mounting Dia., 7$\frac{11}{16}$″; Depth, 3$\frac{13}{32}$″. Ship. Wgt. 2½ lbs.

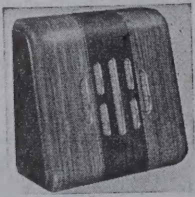
Field resistances are indicated by part numbers. Be sure to specify part numbers and model numbers when ordering.

	Model Number			
Field	40J	50J	65J	80J
3000 Ohms	4JD30	5JD30	6JD30	8JD30
2500 Ohms	4JD25	5JD25	6JD25	8JD25
1800 Ohms	4JD18	5JD18	6JD18	8JD18
1000 Ohms	4JD10	5JD10	6JD10	8JD10
450 Ohms*	4JD45*	5JD45*	6JD45*	8JD45*
6 Volt†	4JD4†	5JD4†	6JD4†	8JD4†

*Bucking Coil included. †Dustproofed.

Voice coil impedances on above speakers 4 ohms at 400 cycles. Transformer mounting brackets included on all speakers. See column at right for matching transformers.

QUAM *Cabinet* SPEAKERS



Suitable for table or wall mounting. Scientifically designed and constructed of seasoned hardwood throughout to provide clear, wide range reproduction. Cabinets are not sold separately.

Any 12″ QUAM speaker can be ordered installed in the 120 cabinet and any 8″ QUAM speaker in the 80 cabinet.

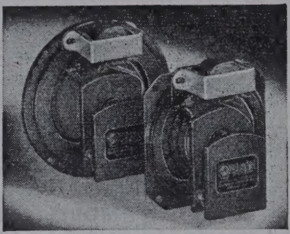
SPEAKER CABINET 120

Cabinet Only. For 12″ speaker. Not sold separately. Dimensions: Height 15″, Width 14″, Depth at Base 9½″, at Top, 5″. Ship. Wgt. 9 lbs.

SPEAKER CABINET 80

Cabinet Only. For 8″ speaker. Not sold separately. Dimensions: Height, 11½″; Width, 11⅝″; Depth at Base, 5″; at Top, 3″. Ship. Wgt. 4 lbs.

QUAM *Junior* P. M. Dynamics



Well designed and built. Performance characteristics are excellent. Made in various sizes and specifications for table models, consoles, automobile sets, battery portables and intercommunication systems. The finish is baked brown enamel.

MODEL 4JP2 4"

Rating 1.5 watts. L.F.S. dustproofing. Dimensions: Dia. 4$\frac{3}{32}$″ Square basket; Mounting Dia., 4$\frac{11}{16}$″; Depth, 1$\frac{55}{64}$″. Ship. Wgt. 1¼ lbs. 2 oz. Magnet.

MODEL 4JP4 4"

Rating 2.5 watts. L.F.S. dustproofing. Dimensions: Dia., 4$\frac{3}{32}$″ Square basket; Mounting Dia., 4$\frac{11}{16}$″; Depth, 1$\frac{55}{64}$″. Ship. Wgt. 1⅜ lbs. 4 oz. Magnet.

MODEL 5JP2 5"

Rating 1.5 watts. L.F.S. dustproofing. Dimensions: Dia., 5″ Round basket; Mounting Dia., 4$\frac{11}{16}$″; Depth, 2$\frac{7}{64}$″. Ship. Wgt. 1⅜ lbs. 2 oz. Magnet.

MODEL 5JP4 5"

Rating 2.5 watts. L.F.S. dustproofing. Dimensions: Dia., 5″ Round basket; Mounting Dia., 4$\frac{11}{16}$″; Depth, 2$\frac{7}{64}$″. Ship. Wgt. 1½ lbs. 4 oz. Magnet.

MODEL 6JP4 6½"

Rating 2.5 watts. L.F.S. dustproofing. Dimensions: Dia., 6½″ Round basket; Mounting Dia., 6⅛″; Depth, 2$\frac{9}{16}$″. Ship. Wgt. 2¼ lbs. 4 oz. Magnet.

MODEL 8JP5 8"

Rating 3.5 watts. L.F.S. dustproofing. Dimensions: Dia., 8″ Round basket; Mounting Dia., 7$\frac{11}{16}$″; Depth, 3$\frac{13}{32}$″. Ship. Wgt. 2⅝ lbs. 5 oz. Magnet.

MODEL 8JP7 8"

Rating 6 watts. L.F.S. dustproofing. Dimensions: Dia., 8″ Round basket; Mounting Dia., 7$\frac{11}{16}$″; Depth, 3$\frac{13}{32}$″. Ship. Wgt. 2¾ lbs. 7 oz. Magnet.

Voice coil impedances on above speakers 4 ohms at 400 cycles. Transformer mounting brackets included on all speakers. See column at right for matching transformers.

QUAM *Permanic* Microphones

A truly sensational microphone that requires no batteries or transformer. Compares favorably with a crystal microphone and yet it costs only about one-third as much! Frequency range of 60 to 8000 cycles with an output level of — 50 DB. Connects directly to the grid of the amplifier tube in any radio set. Finds many uses for home broadcasting, sales meetings, call systems, truck ballyhoos, amateur radio use, and wherever a low priced, sturdy microphone is needed. Also used in conjunction with wireless record players. Available in brown or black crackle finish. (Brown furnished unless black is specified.)

5′ cord and pin tip connectors.......

5′ shielded cable and pin tip connectors
With 20′ cord, not shielded........

Dimensions: Height, 5⅜″; Width, 4¼″; Base Diameter 3½″. Ship. Wgt. 1½ lbs.

Select Matching Transformers from this list

One of the greatest contributions to servicing is the interchangeable transformer. This feature, pioneered by QUAM, continues to meet with universal enthusiasm. Prior to the inception of this feature, engineers in the field had to be content with transformers having various matches which were not only inefficient, but costly, or wait for factory delivery of proper transformers. The transformer with correct matching impedance renders greater value in truer tone at less cost. All QUAM replacement transformers are manufactured from quality materials and are made impervious to climatic conditions by vacuum wax impregnation.

Models 40S, 40SM, 50S, 55S, 65M, 40PM, 50PM, 55PM, 40J, 50J, 65J, 4JP2, 4JP4, 5JP2, 5JP4, 6JP4

Size — ½ x ½

No.	Impedance	Tube
T-773	2000 ohm	25B5, 25L6, etc.
T-704	4000 ohm	25A7, 43, etc.
T-706	7000 ohm	2A5, 42, 6F6, 47
T-717	10000 ohm	41, 89, etc.

Model 65S, 80M, 65PM, 80PM, 80J, 8JP5, 8JP7

Size — ½ x ⅝

No.	Impedance	Tube
T-766	16000 ohm	1T5
T-774	2000 ohm	25B5, 25L6, etc.
T-543	4000 ohm	25A7, 43, etc.
T-548	7000 ohm	2A5, 42, 6F6, 47
T-557	10000 ohm	89, 41, etc.
T-733	10000 ohm (plate to plate)	P.P., 6F6, 19, etc.
T-747	500 and 1000 ohm line	
T-992	25000 ohm	1A5G

Transformers listed above can be furnished with metal shells. Add 10c to list price.

Size — ½ x ⅝

T-752 Universal (all tubes)

Models 80S, 80PM

Size — ⅝ x ⅝

No.	Impedance	Tube
T-813	16000 ohm	1T52
T-771	2000 ohm	25B5, 25L6, etc.
T-767	4000 ohm	43, etc.
T-718	7000 ohm	42, 6F6, etc.
T-797	10000 ohm	41, etc.
T-1009	25000 ohm	1A5G
T-743	14000 ohm (plate to plate)	P.P., 42, 6F6, etc.
T-798	8000 ohm (plate to plate)	P.P., 43
T-744	500 and 1000 ohm line	
T-745	10000 ohm (plate to plate)	19, P.P., 41, 6F6, etc.
T-751	Universal............	All Tubes

Models 120S, S80PM, D80PM, M120PM, 120PM

Size — ¾ x ¾

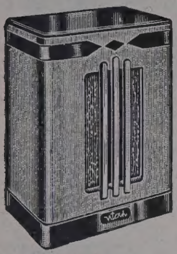
No.	Impedance	Tube
T-799	2500 ohm	2A3-45, etc.
T-559	4000 ohm	6L6, 6V6, etc.
T-740	7000 ohm	42, 2A5, etc.
T-546	10000 ohm	41, 49, etc.
T-741	14000 ohm (plate to plate)	P.P., 42, etc.
T-749	10000 ohm (plate to plate)	P.P., 41, etc.
T-748	5000 ohm (plate to plate)	P.P., 2A3, 45, 6L6, etc.
T-742	500 and 1000 ohm line	
T-750	Universal............	All tubes

Cobyright by U. C P., Inc.

utah REPRODUCERS

THE NEW BAFLEX REPRODUCER

Utah engineering and precision manufacturing score another triumph! Straight from the Utah laboratories, the latest refinements in sound equipment construction and design have been combined to augment the broad and diversified Utah speaker line.



In the new Utah Baflex Reproducer, Utah engineering has incorporated all the latest developments and improvements of reproducers for public address systems, schools, colleges, taverns, dance halls, auditoriums, clubs, etc. They are available in four models.

These new Utah Public Address Reproducers are marked by a total absence of "back radiation." There is no distortion in the greatly improved bass response. They are especially adaptable for use with television and Frequency Modulation (FM) receivers, which require a wide audio frequency range. The frequency response has a range up to approximately 9500 cycles per second.

The cabinets are of sturdy, extra-heavy construction, scientifically designed to eliminate cabinet vibration and resonance. The cabinet design is strikingly modern, with an attractive, durable satin bronze finish.

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Dimensions (Inches)	Shipping Weight	List Price	**Net Price**
M-820	8 Inch	20 oz.	8	1 Inch	10	15	11¼ x 17¾ x 24	38 lb.	$32.00	**$19.20**
Line Transformer No. 8749 for above reproducer								1 lb.	2.00	**1.20**
Universal Plate Transformer No. 8760 for above reproducer								1 lb.	2.00	**1.20**
M-831	8 Inch	31 oz.	8	1¼ Inch	12	18	11¼ x 17¾ x 24	40 lb.	36.50	**21.90**
Line Transformer No. 8752 for above reproducer								1½ lb.	2.60	**1.56**
Universal Plate Transformer No. 8762 for above reproducer								1½ lb.	2.60	**1.56**
M-123	12 Inch	46 oz.	8	1¼ Inch	17	26	12¾ x 22⅝ x 31	52 lb.	49.50	**29.70**
Line Transformer No. 8750 for above reproducer								1½ lb.	2.60	**1.56**
Universal Plate Transformer No. 8761 for above reproducer								1½ lb.	2.60	**1.56**
M-127	12 Inch	7 lb.	8	1½ Inch	22	33	12¾ x 22⅝ x 31	57 lb.	67.50	**40.50**
Line Transformer No. 8753 for above reproducer								2¼ lb.	3.15	**1.89**
Universal Plate Transformer No. 8764 for above reproducer								2¼ lb.	3.15	**1.89**

NOTE: 12-Inch Cabinet in Natural Walnut — $10.00 additional list.

UTAH BAFLEX REPRODUCERS

Especially Designed for Frequency Modulation Reception

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Dimensions (Inches)	Shipping Weight	List Price	**Net Price**
FM-820	8 Inch	20 oz.	8	1 Inch	10	15	11¼ x 17¾ x 24	38 lb.	$33.00	**$19.80**
FM-1220	12 Inch	20 oz.	8	1 Inch	13	20	12¾ x 22⅝ x 31	49 lb.	43.00	**25.80**
Line Transformer No. 8749 for above reproducer								1 lb.	2.00	**1.20**
Universal Plate Transformer No. 8760 for above reproducer								1 lb.	2.00	**1.20**

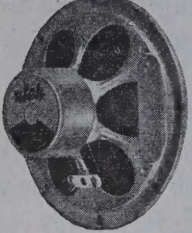
Some of the above items may not be available for the duration. Consult your local UTAH jobber.

utah

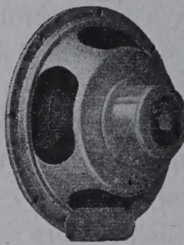
HIGH FIDELITY SPEAKERS

PERMO-DYNAMIC MODELS

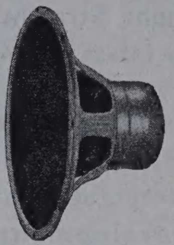
Completely Dustproofed



E6P



F8P



F12P

H15P

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Shipping Weight	List Price	Net Price
E6P	6 Inch	7 Oz.	6–8	¾ Inch	4.5	7	2 Lb.	$ 5.25	**$ 3.15**
		Line Transformer No. 8746 for Above Speaker					¾ Lb.	1.50	**.90**
		Universal Plate Transformer No. 8759 for Above Speaker					¾ Lb.	1.50	**.90**
F8P	8 Inch	12 Oz.	6–8	¾ Inch	8	12	3 Lb.	8.50	**5.10**
		Line Transformer No. 8747 for Above Speaker					¾ Lb.	1.50	**.90**
		Univ. Plate Transformer No. 8759 for Above Speaker					¾ Lb.	1.50	**.90**
G8P	8 Inch	20 Oz.	6–8	1 Inch	10	15	4½ Lb.	11.75	**7.05**
		Line Transformer No. 8749 for Above Speaker					1 Lb.	2.00	**1.20**
		Universal Plate Transformer No. 8760 for Above Speaker					1 Lb.	2.00	**1.20**
E10P	10 Inch	20 Oz.	6–8	1 Inch	11	17	5¼ Lb.	13.75	**8.25**
		Line Transformer No. 8749 for Above Speaker					1 Lb.	2.00	**1.20**
		Universal Plate Transformer No. 8760 for Above Speaker					1 Lb.	2.00	**1.20**
F10P	10 Inch	31 Oz.	6–8	1¼ Inch	14	21	7 Lb.	17.25	**10.35**
		Line Transformer No. 8752 for Above Speaker					1½ Lb.	2.60	**1.56**
		Universal Plate Transformer No. 8762 for Above Speaker					1½ Lb.	2.60	**1.56**
E12P	12 Inch	20 Oz.	6–8	1 Inch	13	20	6½ Lb.	16.00	**9.60**
		Line Transformer No. 8749 for Above Speaker					1 Lb.	2.00	**1.20**
		Universal Plate Transformer No. 8760 for Above Speaker					1 Lb.	2.00	**1.20**
F12P	12 Inch	31 Oz.	8	1¼ Inch	16	24	8¼ Lb.	17.25	**10.35**
G12P	12 Inch	46 Oz.	8	1¼ Inch	17	26	9¾ Lb.	24.25	**14.55**
		Line Transformer No. 8750 for Above Speakers					1½ Lb.	2.60	**1.56**
		Universal Plate Transformer No. 8761 for Above Speaker					1½ Lb.	2.60	**1.56**
GS12P	12 Inch	4 Lb.	8	1½ Inch	20	30	12¾ Lb.	34.75	**20.85**
H12P	12 Inch	7 Lb.	8	1½ Inch	22	33	15¾ Lb.	43.00	**25.80**
		Line Transformer No. 8753 for Above Speakers					2¼ Lb.	3.15	**1.89**
		Universal Plate Transformer No. 8764 for Above Speakers					2¼ Lb.	3.15	**1.89**
GS15P	15 Inch	4 Lb.	8	1½ Inch	22	33	15½ Lb.	38.00	**22.80**
H15P	15 Inch	7 Lb.	8	1½ Inch	24	36	18½ Lb.	49.75	**29.85**
		Line Transformer No. 8754 for Above Speakers					2¼ Lb.	3.15	**1.89**
		Universal Plate Transformer No. 8765 for Above Speakers					2¼ Lb.	3.15	**1.89**

NOTE—All Line Transformers Tapped for 500—1000—1500—2000 Ohms.

UTAH FREQUENCY MODULATION SPEAKERS

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Shipping Weight	List Price	Net Price
FP-820	8 Inch	20 Oz.	8	1 Inch	10	15	4½ Lb.	$11.75	**$7.05**
FP-1020	10 Inch	20 Oz.	8	1 Inch	11	17	5¼ Lb.	13.75	**8.25**
FP-1220	12 Inch	20 Oz.	8	1 Inch	13	20	6½ Lb.	16.00	**9.60**
		Line Transformer No. 8749 for above speakers					1 Lb.	2.00	**1.20**
		Universal Plate Transformer No. 8760 for above speakers					1 Lb.	2.00	**1.20**

IMPORTANT INSTRUCTIONS

For Ordering Replacement Cone and Voice Coil Assemblies

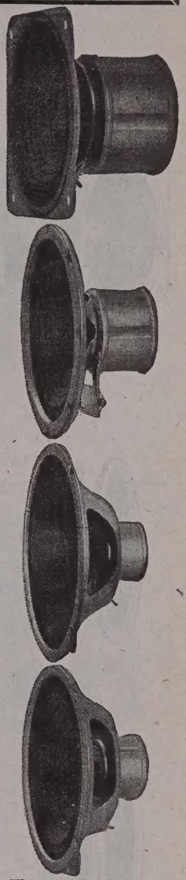
In ordering cone replacements, it is absolutely necessary to supply us with all the numbers stamped on the speaker. All speakers are stamped with three sets of numbers, and on many speakers, with the voice coil impedance. One number designates the date on which the speaker was made; one is our catalog stock number; and the third is our production number which gives us the complete specifications of the speaker. When all the numbers are given on your order, we shall be able to supply the correct cone and voice coil assembly for the designated speaker. It is also helpful if you can inform us of the voice coil impedance and whether the spider is of the bakelite or corrugated paper construction. . . . REMEMBER, THE STOCK NUMBER OF THE SPEAKER DOES NOT GIVE US COMPLETE INFORMATION.

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

utah STANDARD FIDELITY SPEAKERS

PERMO-DYNAMIC MODELS

Completely Dustproofed



Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Shipping Weight	List Price	Net Price
3P	3½ Inch	5 Oz.	3–5	⅝ Inch	2.5	3.75	1 Lb.	$3.75	**$2.25**
3PY	3½ Inch	1½ Oz.	2.5	½ Inch	2.0	3.0	12 Oz.	2.50	**1.50**
3PZ	3½ Inch	2½ Oz.	2.5	½ Inch	2.0	3.0	13 Oz.	2.65	**1.59**
4PY	4 Inch	1½ Oz.	2.5	½ Inch	2.5	3.75	13 Oz.	2.50	**1.50**
4PZ	4 Inch	2½ Oz.	2.5	½ Inch	2.5	3.75	1 Lb.	3.00	**1.80**
5PY	5 Inch	1½ Oz.	2.5	½ Inch	3.0	4.5	13 Oz.	2.65	**1.59**
5PZ	5 Inch	2½ Oz.	2.5	½ Inch	3.0	4.5	1 Lb.	3.00	**1.80**
5P	5 Inch	5 Oz.	6	⅝ Inch	3	4.5	1¼ Lb.	3.85	**2.31**
Single Output Transformer No. 8770 (25L6—25L6G—25L6GT—25B6G—35L6GT-48, 2000 Ohm. Impedance) for Above Speakers							½ Lb.	1.05	**.63**
Single Output Transformer No. 8771 (6V6—6V6G—25A6—25A6G—25A7G—43—71A, 4000 Ohm. Impedance) for Above Speakers							½ Lb.	1.05	**.63**
Single Output Transformer No. 8772 (1C5G—1G5G—6A4—6F6—6G6G—6K6GT—20—30—1H4G—31—33—38—89—112A—41—42, 10,000 Ohm. Impedance) for Above Speakers							½ Lb.	1.05	**.63**
Single Output Transformer No. 8773 (1A5G—1F4—1F5G—25,000 Ohm Impedance) for Above Speakers							½ Lb.	1.05	**.63**
6P	6 Inch	5 Oz.	6–8	¾ Inch	4	6	1¾ Lb.	4.75	**2.85**
Line Transformer No. 8746 for Above Speaker							¾ Lb.	1.50	**.90**
Universal Plate Transformer No. 8759 for Above Speaker							¾ Lb.	1.50	**.90**
8P	8 Inch	5 Oz.	6–8	¾ Inch	7	11	2½ Lb.	5.75	**3.45**
E8P	8 Inch	7 Oz.	6–8	¾ Inch	7	11	2¾ Lb.	6.50	**3.90**
Line Transformer No. 8747 for Above Speakers							¾ Lb.	1.50	**.90**
Universal Plate Transformer No. 8759 for Above Speakers							¾ Lb.	1.50	**.90**
10P	10 Inch	12 Oz.	6–8	1 Inch	9	14	4½ Lb.	9.25	**5.55**
12P	12 Inch	12 Oz.	6–8	1 Inch	10	15	5¾ Lb.	11.25	**6.75**
Line Transformer No. 8749 for Above Speakers							1 Lb.	2.00	**1.20**
Universal Plate Transformer No. 8760 for Above Speakers							1 Lb.	2.00	**1.20**

NOTE—All Line Transformers Tapped for 500—1000—1500—2000 Ohms.

THE NEW UTAH BI-DIRECTIONAL SPEAKERS

The Utah Bi-Directional Speaker embodying the latest speaker design and construction features, has been especially developed and engineered for factory call and paging systems.

Their sturdy construction and improved design combined with their popular price make them ideal for factories, hotels, clubs, etc. The baffles are molded, non-metallic. There is no excessive low frequency response to distort intelligibility. A swivel joint bracket assures correct mounting.

Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Dimensions (Inches)	Shipping Weight	List Price	Net Price
W-800	8 Inch	12 Oz.	6–8	¾ Inch	8	12	9½ x 5	6¼ Lb.	$15.50	**$9.30**
List Price Includes Line Transformer. 1 to 8 speakers can be connected across 250 or 500 Ohm line. Transformer tapped for 500—1000—1500—2000 Ohms										
W-801	8 Inch	12 Oz.	6–8	¾ Inch	8	12	9½ x 5	6¼ Lb.	$15.50	**$9.30**
List Price Includes Line Transformer. 9 to 20 speakers can be connected across 250 or 500 Ohm line. Transformer tapped for 2500—3750—4000—4750 Ohms.										

UTAH WALL REPRODUCER

The new Utah Wall Reproducer is the effective solution for sound systems that require a reproducer for music as well as voice. Its low price makes it an economical one as well. The finish blends with any decorative scheme.

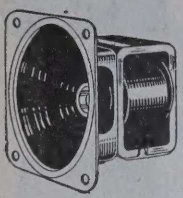
The tone quality has been immeasurably improved by the molded, non-metallic housing. Ideal coverage of a given area is assured because of the scientifically engineered angle of the new Utah Wall Reproducer.

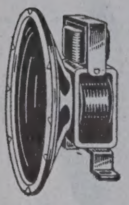
Stock Number	Cone Housing Diameter	Magnet Weight	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	Dimensions (Inches)	Shipping Weight	List Price	Net Price
W-810	8 Inch	12 Oz.	6–8	¾ Inch	8	12	13 x 11	4 Lb.	$13.75	**$8.25**
Line Transformer No. 8747 for above wall reproducer								¾ Lb.	1.50	**.90**
Universal Plate Transformer No. 8759 for above wall reproducer								¾ Lb.	1.50	**.90**

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

utah REPLACEMENT SPEAKERS

UTAH "Q" SERIES REPLACEMENT SPEAKERS

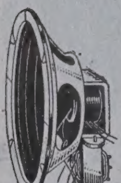




Stock Number	Cone Housing Diameter	Field Resistance (Ohms)	Voice Coil Diameter	Shipping Weight	List Price	**Net Price**
Q330	3½ Inch	3000	½ Inch	1 Lb.	$3.05	**$1.83**
Q345	3½ Inch	450	⅝ Inch	1 Lb.	3.05	**1.83**
Single 25L6 Output Transformer (2000 Ohm Impedance) **No. 8757** for Above Speaker				½ Lb.	1.05	**.63**
Q-427	4 Inch	2750	½ Inch	1½ Lb.	3.05	**1.83**
Q-445	4 Inch	450	½ Inch	1½ Lb.	3.05	**1.83**
Q506	5 Inch	6	⅝ Inch	1½ Lb.	3.05	**1.83**
Q510	5 Inch	1000	⅝ Inch	1½ Lb.	3.05	**1.83**
Q518	5 Inch	1800 Tapped at 300	⅝ Inch	1½ Lb.	3.05	**1.83**
Q530	5 Inch	3000 Tapped at 2500	⅝ Inch	1½ Lb.	3.05	**1.83**
Q545	5 Inch	450	⅝ Inch	1½ Lb.	3.05	**1.83**
Single Output Transformer No. 8770 (25L6—25L6G—25L6GT—25B6G—35L6GT-48, 2000 Ohm Impedance) for Above Speakers				½ Lb.	1.05	**.63**
Single Output Transformer No. 8771 (6V6—6V6G—25A6—25A6G—25A7G—43—71A, 4000 Ohm Impedance) for Above Speakers				½ Lb.	1.05	**.63**
Single Output Transformer No. 8772 (1C5G—1G5G—6A4—6F6—6G6G—6K6GT—20—30—1H4G—31—33—38—39—112A—41—42, 10,000 Ohm Impedance) for Above Speakers				½ Lb.	1.05	**.63**
Single Output Transformer No. 8773 (1A5G—1F4—1F5G, 25,000 Ohm Impedance) for Above Speakers				½ Lb.	1.05	**.63**
Shipping Weight of Above Transformers				½ Lb.		

NOTE—Special Triangular Mounting Bracket for Crosley Sets—**Stock Number P7705**—List Price .25

NOTE—Above Transformers available with Type D. Chassis style mounting at same prices.

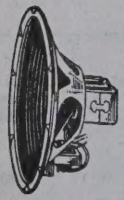


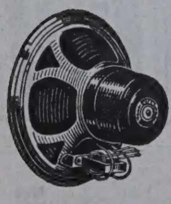
Stock Number	Cone Housing Diameter	Field Resistance (Ohms)	Voice Coil Diameter	Shipping Weight	List Price	**Net Price**
Q606	6 Inch	6	⅝ Inch	2½ Lb.	$4.70	**$2.82**
Q610	6 Inch	1000	⅝ Inch	2½ Lb.	4.70	**2.82**
Q618	6 Inch	1800 Tapped at 300	⅝ Inch	2½ Lb.	4.70	**2.82**
Q620	6 Inch	2000	⅝ Inch	2½ Lb.	4.70	**2.82**
Q625	6 Inch	2500	⅝ Inch	2½ Lb.	4.70	**2.82**
Q810	8 Inch	1000	¾ Inch	3½ Lb.	6.05	**3.63**
Q818	8 Inch	1800 Tapped at 300	¾ Inch	3½ Lb.	6.05	**3.63**
Q820	8 Inch	2000	¾ Inch	3½ Lb.	6.05	**3.63**
Q825	8 Inch	2500	¾ Inch	3½ Lb.	6.05	**3.63**
Q1010	10 Inch	1000	1 Inch	5¾ Lb.	8.25	**4.95**
Q1015	10 Inch	1500	1 Inch	5¾ Lb.	8.25	**4.95**
Q1020	10 Inch	2000	1 Inch	5¾ Lb.	8.25	**4.95**
Q1025	10 Inch	2500	1 Inch	5¾ Lb.	8.25	**4.95**
Q1210	12 Inch	1000	1 Inch	6¾ Lb.	9.65	**5.79**
Q1215	12 Inch	1500	1 Inch	6¾ Lb.	9.65	**5.79**
Q1220	12 Inch	2000	1 Inch	6¾ Lb.	9.65	**5.79**
Q1225	12 Inch	2500	1 Inch	6¾ Lb.	9.65	**5.79**

NOTE—Universal Transformer—Standard Equipment on Above Speakers.

THE FAMOUS UTAH "R" SERIES REPLACEMENT DYNAMIC SPEAKERS

The "R" Series combines maximum performance at lowest possible cost. One size heavier wire used in the field gives higher flux density resulting in better efficiency and damping and purer tone quality. Bucking coil for "humless" performance used throughout the entire "R" series. Undoubtedly the best speaker value in the industry.





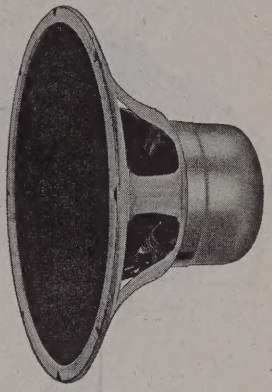
Stock Number	Cone Housing Diameter	Field Resistance (Ohms)	Voice Coil Diameter	Shipping Weight	List Price	**Net Price**
R345	3½ Inch	450	⅝ Inch	1 Lb.	$3.60	**$2.16**
R506	5 Inch	6	⅝ Inch	1½ Lb.	3.60	**2.16**
R510	5 Inch	1000	⅝ Inch	1½ Lb.	3.60	**2.16**
R518	5 Inch	1800 Tapped at 300	⅝ Inch	1½ Lb.	3.60	**2.16**
R530	5 Inch	3000 Tapped at 2500	⅝ Inch	1½ Lb.	3.60	**2.16**
R545	5 Inch	450	⅝ Inch	1½ Lb.	3.60	**2.16**
R606	6 Inch	6	¾ Inch	2¾ Lb.	5.75	**3.45**
R610	6 Inch	1000	¾ Inch	2¾ Lb.	5.75	**3.45**
R618	6 Inch	1800 Tapped at 300	¾ Inch	2¾ Lb.	5.75	**3.45**
R620	6 Inch	2000	¾ Inch	2¾ Lb.	5.75	**3.45**
R625	6 Inch	2500	¾ Inch	2¾ Lb.	5.75	**3.45**
R810	8 Inch	1000	¾ Inch	5 Lb.	6.85	**4.11**
R815	8 Inch	1500	¾ Inch	5 Lb.	6.85	**4.11**
R818	8 Inch	1800 Tapped at 300	¾ Inch	5 Lb.	6.85	**4.11**
R820	8 Inch	2000	¾ Inch	5 Lb.	6.85	**4.11**
R825	8 Inch	2500	¾ Inch	5 Lb.	6.85	**4.11**
R1010	10 Inch	1000	1 Inch	7¼ Lb.	10.25	**6.15**
R1015	10 Inch	1500	1 Inch	7¼ Lb.	10.25	**6.15**
R1020	10 Inch	2000	1 Inch	7¼ Lb.	10.25	**6.15**
R1025	10 Inch	2500	1 Inch	7¼ Lb.	10.25	**6.15**
R1210	12 Inch	1000	1 Inch	8 Lb.	11.85	**7.11**
R1215	12 Inch	1500	1 Inch	8 Lb.	11.85	**7.11**
R1220	12 Inch	2000	1 Inch	8 Lb.	11.85	**7.11**
R1225	12 Inch	2500	1 Inch	8 Lb.	11.85	**7.11**

NOTE—Universal Transformers Standard Equipment on Above Speakers except No. R345 (Voice Coil Impedance 3½ Ohm.) **Single 25L6 Output Transformer** (2000 Ohm Impedance) **No. 8757 for No. R345**—List Price $1.05. Net Price 63c. (Shipping Weight ½ Lb.)

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

utah SPEAKERS & TRUMPETS

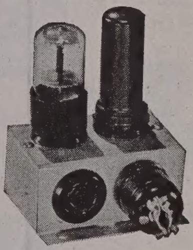
NEW UTAH AC FIELD EXCITED SPEAKERS


12 AC 20

Again Utah engineering brings you a solution for the current shortage of certain essential raw maerials. A complete line of AC Field Excited Speakers humless in operation, and equivalent in performance to the famous Utah high fidelity Permo Dynamic line. A speaker for every public address and sound requirement. Require only the addition of the AC field supply shown below to substitute for any Permo Dynamic application. Standard Utah weather-resistant construction. Use Standard Utah output transformers.

Stock Number	Cone Diameter	Voice Coil Impedance	Voice Coil Diameter	Normal Wattage	Peak Wattage	List Price	NET PRICE
8 AC 30	8 Inch	6-8 Ohm	1¼″	12	18	$ 8.75	$ 5.25
10 AC 12	10 Inch	“	1″	9	14	6.00	3.60
12 AC 12	12 Inch	“	1″	10	15	7.00	4.20
12 AC 20	12 Inch	“	1″	13	20	9.00	5.40
12 AC 40	12 Inch	“	1¼″	16	24	11.25	6.75
12 AC 75	12 Inch	“	1½″	21	32	17.50	10.50

NEW AC FIELD EXCITATION SUPPLY


ACSF1

AC field supply properly designed for humless operation of any of the above Speakers. At 117 volts, 60 cycle input, the maximum output is 12 watts at 105 mills. May be mounted directly in the speaker baffle. Use a separate supply for each speaker. Price less Rectifier tube but includes ballast and plug. No cord furnished. Requires 1—50 Y6 GT rectifier tube.

Stock No. ACSFI—List Price $4.75..........NET PRICE $2.85

DRIVER REFLEX TRUMPETS

24D

Three years of Utah research now gives you a new projector trumpet that will amaze you with its higher efficiency, its broader frequency response, its sturdier construction, its new beautiful finish. Available in 2 models, reflexed for compactness, fully weather proofed, and equipped with a sturdy ratchet lock mounting fixture that locks positively at any practical angle. In combination with the driver unit listed below, we invite you to compare Utah's projectors with any on the market. We know your reaction will be favorable.

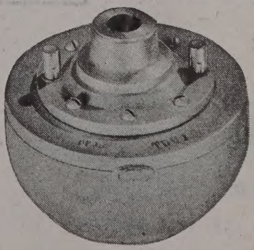
21D SPECIFICATIONS

Overall Length ....17 Inches
Bell Diameter ....21 Inches
Projection Angle ....90 Degrees
Shipping Weight ....16 Lbs
Driver unit attachment tapped for 1⅜ x 18 “standard”.
Mounting Fixture tapped for ½ inch I.P.S.
High Lustre Baked-on Art Enamel.
Exponential length ....4 Feet
List Price, Less Unit $24.50
NET PRICE $14.70

25D SPECIFICATIONS

Overall Length ....20 Inches
Bell Diameter ....25 Inches
Projection Angle ....90 Degrees
Shipping Weight ....20 Llbs
Driver unit attachment tapped for 1⅜ x 18 “standard”.
Mounting Fixture tapped for ½ inch I.P.S.
High Lustre Baked-on Art Enamel.
Exponential length ....4 Feet 10 Inches
List Price, Less Unit $34.50
NET PRICE $20.70

TRUMPET DRIVER UNIT ONLY


Driver

Utah's new driver unit in combination with the Utah projectors shown above offers power, efficiency and a frequency band coverage you never expected to be able to secure in a trumpet before. See it now—at your Utah Jobber. 25 Watt rating, dust proof, weather proof and fool proof. 16 ohm voice coil.

List Price $42.50..........**NET PRICE $25.50**

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

HIGH EFFICIENCY REFLEX SPEAKERS

University

HIGH POWER DRIVER UNITS

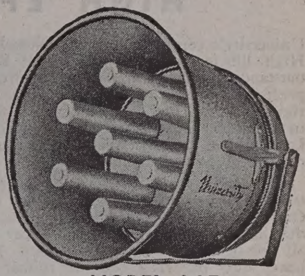
SUPER POWER SPEAKERS

Model	AA-7	4A4	2YR
Power	250 Watts	100 Watts	50 Watts
Impedance	100 ohms series 2 ohms parallel	60 ohms series 15 ohms parallel	30 ohms series 8 ohms parallel
Drivers	7 PAH	4 PAH	2 PAH
Dispersion	90°	80°	90°
Frequency	250-5000 Cycles	300-5000 Cycles	250-5000 Cycles
Projection	Up to 2 Mi.	Up to 1⅓ Mi.	Up to ¾ Mi.
Diameter	23 Inches	17 Inches	25 Inches
Height	21 Inches	17 Inches	18 Inches
Weight	100 Lbs.	60 Lbs.	35 Lbs.
Price	$721.00	$437.50	$158 45

Prices include Driver Units and "U" Bracket.

Present war conditions have created many needs for extremely high powered Loudspeakers capable of projecting sound over large areas and for long distances at sea, or through wooded areas and/or to overcome high noise level conditions. University engineers developed the Model AA7 and Model 4A4 Loudspeakers as an answer to these problems. These Loudspeakers, although ruggedly constructed, are extremely compact in design and are light enough in weight to permit easy handling and maneuverability. Projectors are of reflex design, and Driver Units are hermetically sealed. This combination assures complete waterproof protection for outdoor use, under the severest weather conditions.

University engineers also have developed for the various government agencies high powered Loudspeakers capable of handling up to 400 watts of audio. At present, these Loudspeakers are available only for use by the armed forces. Specifications are available to government agencies or to firms engaged in war contracts, on request.



MODEL AA7

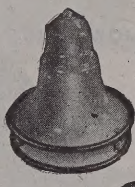
HIGH EFFICIENCY ANNOUNCING SPEAKERS

Model	IB-8	IBR
Power	12 Watts	10 Watts
Impedance	8 Ohms	8 Ohms
Drivers	Hermetically sealed Driver Unit Built Into Speaker	
Dispersion	60°	360°
Frequency	300-5000 Cycles	300-5000 Cycles
Projection	Up to ⅕ Mile	Radially
Diameter	9 Inches	9 Inches
Height	9 Inches	10 Inches
Weight	5 Lbs.	5 Lbs.
Price	*$26.40	$30.00

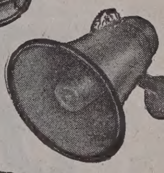
*Speaker with heavy duty bracket for mobile use $30.15

Combining high efficiency with extreme compactness of size, the University Model IB-8, originally designed for industrial plant installations, has proved to be a most versatile speaker. Despite its small physical dimensions, it is capable of handling greater power than any other speaker of its size with the result that thousands of IB-8's are now performing remarkable service throughout airplane, ordnance, munitions and other factories throughout the country. Leading Sound Engineers have recognized the IB-8 as the finest speaker of its type, especially suited for voice reproduction.

Model IB8 is waterproof and shockproof and will operate continually outdoors, under the most adverse climatic conditions. Price includes mounting bracket and hermetically sealed Driver Unit built into loudspeaker.



MODEL IBR



MODEL IB8

HIGH EFFICIENCY BOOSTER SPEAKERS

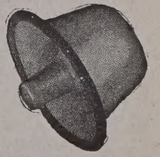
Model	CR	RCR
Power	18 Watts	15 Watts
Impedance	15 Ohms Standard, 4 Ohms on Req	
Drivers	Hermetically sealed Driver Unit Built Into Speaker	
Dispersion	70°	360°
Frequency	200-5000 Cycles	200-5000 Cycles
Projection	Up to ¼ Mile	Radially
Diameter	11 Inches	14 Inches
Height	9 Inches	10 Inches
Weight	9 Lbs.	10 Lbs.
Price	*$42.00	$48.50

*Speaker with heavy duty bracket for mobile use $45.75

Model CR Booster Speakers, originally designed for noisy factory paging installations, are now being used on jeeps, cars, trucks, etc., for high power direction and control. Model CR Booster Speakers also are being installed on outer decks of ships, docks, yards and loading platforms, and give satisfactory operation in all kinds of weather. The Driver Unit is hermetically sealed and built into the Loudspeaker in such a manner as to be impervious to any weather conditions. University Model CR is available with rugged mounting brackets for marine bulkhead and mobile installations. University Model CR is also manufactured in radial type for 360° uniform coverage.

Price includes mounting bracket and hermetically sealed Driver Unit built into loudspeaker.

MODEL RCR



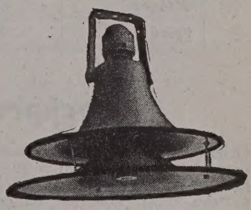
MODEL CR

RADIAL REFLEX SPEAKERS

Model	RLH	RPH	RSH
Dispersion	360°	360°	360°
Frequency	120 Cycles Cut-off	150 Cycles Cut-off	180 Cycles Cut-off
Air Column	5 Ft.	4 Ft.	3 Ft.
Diameter	28 Inches	21 Inches	19 Inches
Height	19 Inches	16 Inches	11 Inches
Weight	21 Lbs.	13 Lbs.	10 Lbs.
Price	$59.00	$40.00	$26.00

University Radial Reflex Projectors are designed to give absolute uniform 360° sound coverage. They are capable of covering large areas and still override high noise levels without blasting effect. To further eliminate the concentration of sound directly underneath the Loudspeaker, the diameter of the lower deflector is much greater than that of the bell, thus a tendency to spread out the sound. Many industrial installations have found the Radial Projector a much better solution to certain acoustic problems than the straight Projector. Sound engineers also have found that, in many cases, one Radial Projector with a University High Efficiency Unit will provide equal or better cover than two to four standard projectors in the same area. This has resulted in greater economy and better performance in many industrial installations.

Each Projector shipped complete with University "U" bracket less Driver Units.



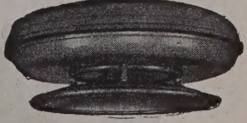
MODEL RPH

RADIAL CONE SPEAKER PROJECTORS

Model	RBP-12	RBP-8
Dispersion	360°	360°
Frequency	Uniform down to 50 Cycles	Uniform down to 80 Ccycles
Diameter	27 Inches	18 Inches
Height	11 Inches	9 Inches
Weight	19 Lbs.	9 Lbs.
Price	$29.40	$19.60

For installations where extreme low frequency response is required, in addition to unform 360° projection, University Model RBP Radial Cone Speaker Projectors are especially designed for music reproduction and are superior to any similar type available. The University Model RBP Projectors have the pleasing appearance and compact construction of the ceiling or "chandelier" type Projector. In addition, due to the exclusive "infinite baffle" design, the reproduction of the low frequencies is excellent.

As in all other models, University Model RBP Radial Projectors are completely non-resonant, even the cone speaker is mounted in a rubber rim. The Projector is so designed as to be "water shedding," and can be used outdoors continuously. Projector shipped complete with mounting hardware, but less loudspeaker.



MODEL RBP 12

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

HIGH EFFICIENCY REFLEX SPEAKERS University **HIGH POWER DRIVER UNITS**

HIGH EFFICIENCY REFLEX LOUDSPEAKERS

University's complete line of reflexed, all-metal waterproof Projectors, High Efficiency Driver Units and Radial Loudspeakers represent an outstanding contribution in the field of acoustic reproduction. Scientific precision designing by University engineers in combination with rigid standards of construction and careful workmanship have resulted in a product superior to any heretofore obtainable. Today, University Loudspeakers are specified by the armed forces to meet the rigid requirements of wartime use.

University Projectors, fabricated of heavy gauge metals, are extremely rugged and stand up under "battlefront" operating conditions. Outstanding among the many features of University Projectors is the now famous University rubber rim which tends to eliminate all possible rattles and resonant vibration. The combination of heavy duty materials and the rubber tire rim used on all University Projectors makes possible a completely non-resonant Projector. This insures absolute clear reproduction of sound so vital to wartime needs. In addition, special non-corrosive finishes are applied to all Projectors and Driver Units. This minimizes any possibility of rust or deterioration to the equipment now in use from the tropics to the arctic.

University's reflexed Projectors, when used with University hermetically sealed Driver Units, assure a waterproof, weatherproof, outdoor Loudspeaker and guarantee continual, long life operation, in all climates and temperatures throughout the world. All University Projectors are equipped with universal "U" brackets, permitting easy installation and providing flexible setting in any position. These many features account for the successful and continuous use of thousands of University Horns and Units by our armed forces for direction and control, both on land and sea.

MODEL LH

Model	LH
Air Column	4½ Ft.
Dispersion	90°
Frequency	115 to 5,000 Cycles
Projection	Up to ½ Mile
Diameter	25 Inches
Height	18 Inches
Weight	15 Lbs.
Price	$39.25

MODEL PH

Model	PH
Air Column	3½ Ft.
Dispersion	80°
Frequency	140 to 5,000 Cycles
Projection	Up to ½ Mile
Diameter	20 Inches
Height	15 Inches
Weight	10 Lbs.
Price	$24.25

MODEL SMH

Model	SMH
Air Column	2½ Ft.
Dispersion	70°
Frequency	180 to 5,000 Cycles
Projection	Up to ½ Mile
Diameter	15 Inches
Height	12 Inches
Weight	6 Lbs.
Price	$18.00

Shockproof . . . Waterproof . . . Breakdown-proof Driver Units

Originally designed for peacetime requirements, but today recognized as the finest units for meeting the necessities of the armed forces, University high power PM dynamic Driver Units are built to the most exacting standards of precision engineering. Many radically new and exclusive design features have been incorporated into these units. Chief among University developments is the exclusive "Rim Center" construction and assembly. "Rim Centering" eliminates the use of pins, and instead provides a means of centering the voice coil and head assembly in a much closer magnetic gap. An increase of 20 to 25% in gap energy thus obtained provides University units with a higher conversion efficiency than any other units of similar size and weight. Another important development is the use of plastic for diaphragm flexing surfaces. This assures three times greater life of the Unit as compared to metallic diaphragms. The combination of rim centering, bakelite flexing surfaces, heatproof voice coil suspension and hermetically sealed dust covers spun directly over the unit structure makes possible the unconditional breakdown guarantee, which first made University units nationally famous.

MODEL PAH

University
PAH DRIVER UNIT

Model	PAH	SAH
Power	25 Watts	25 Watts
Impedance	15 Ohms	15 Ohms
Frequency	100 to 6,000 Cycles	100 to 6,000 Cycle
Diameter	5¼ Inches	4½ Inches
Height	5 Inches	5 Inches
Weight	9 Lbs.	5 Lbs.
Price	$53.00	$ 33.00

MODEL SAH

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

NEW *Hypex* PROJECTORS

with *Annular Diaphragm* Unit

These new Jensen "Hypex" Projectors consist of a Type H "Hypex" Horn and Type U "Annular" Driver Unit. The "Hypex" Horn (Patents Pending) is a totally new Jensen development—not "exponential," but with an entirely new flare formula that gives increased efficiency in the region above acoustic cut-off. Two horn sizes give nominal cut-off values of 165 cps. and 140 cps., either of which can be used with any Type U "Annular" Driver Unit below.

Type U "Annular" Driver Units (U. S. Pat. 1,845,768), offered in equivalent Field Coil and PM designs, employ the exclusive Jensen "Annular" principle in which the dural diaphragm is clamped at periphery and **center.** This gives extra stability, greater freedom from harsh "breakup" sometimes encountered with "dome" diaphragms.

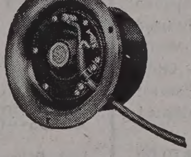
"Hypex" Projectors are especially suitable for speech reproduction, since response extends from the vicinity of acoustic cut-off to the 5,000 cycle region with greatest emphasis on middle highs that add "punch" and "carrying power." Commercially acceptable music reproduction, within the limitations of all small reflex horns, is also provided. Sturdy steel encased unit, plus reflex horn construction insures dependable operation indoors and out, under all weather conditions. Finish is durable baked two-tone gray lacquer.

STANDS AND SUPPORTS

EA-6. Adjustable Stand. Sturdy cast fitting with three-leg base, for mounting projector on wall or other surface. Horizontal and vertical adjustment.
List Price $5.00

EA-7. Adjustable Support. Provides adjustment when projector is mounted on pipe mast. ¾ inch pipe thread both ends.
List Price $3.75

TYPE U *"Annular"* DRIVER UNITS



U-20. "Annular" Driver Unit. Permanent Magnet type. Rated at 15 watts average, 25 watts maximum, with normal voice or music input. 16-ohm voice coil. Internal screw terminals. Dustproof, screened sound chamber. Diameter, 6⅛". Depth, 3⅞". Shipping weight, 11 lbs. Specify ST-630.
List Price $36.00

UF-20. "Annular" Driver Unit. Field Coil type, 1250 ohms. Normal excitation, 10 watts from FS-10 or other Field Supply. Shipping weight, 12 lbs. Specify ST-631.
List Price $36.00

UF-20. "Annular" Driver Unit. Field Coil type for 6-volt (1.6 amp.) battery. Specify ST-632. List Price..$36.00

Type H *"Hypex"* PROJECTOR HORNS

H-20. "Hypex" Horn only. Bell diameter, 20¾". Depth, 16⅜". Acoustical length, 4 feet. Nominal acoustic cut-off, 165 cps. Stand coupling flange tapped for ¾" pipe thread. Net weight, 11¼" lbs. Shipping wt., 18¼ lbs.
List Price $28.50

H-24. "Hypex" Horn only. Bell diameter, 24¾". Depth, 20⅛". Acoustical length, 5 feet. Nominal acoustic cut-off, 140 cps. Net weight, 14¾ lbs. Shipping wt., 21¾ lbs.
List Price $35.00

JENSEN Type "S" *Peri-Dynamic Projector . . .*

15-25 WATTS CAPACITY

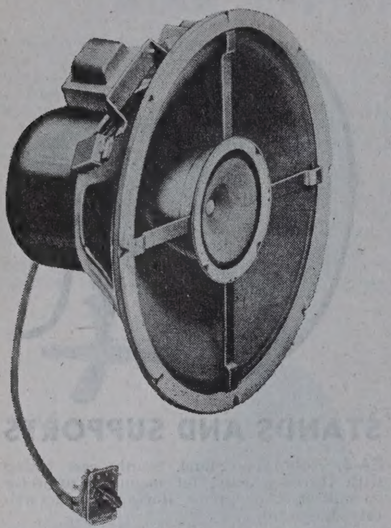
These Projectors are complete assemblies of specially designed Driver Speaker and acoustic system utilizing the Peridynamic principle and correctly designed projector horn. Unusually good response is obtained in the 100-cycle region and high frequency response at good efficiency is maintained to 5500 cycles, thus especially qualifying these projectors for applications emphasizing music reproduction and naturalness in speech quality. Except for opening into horn, projector is completely weatherproofed, suitable for use indoors and out. Power rating is 15 watts average, 25 watts maximum, with normal voice or music input. Voice coil impedance, 8 ohms. Bell diameter, 24½". Overall length, 30". Shipping weight, 30 lbs. Complete with plugs for voice coil and field connections. Field coil designs require 10-watt normal excitation from battery or Field Supply Unit.

SPH-81. Projector, complete, PM Type. ST-633. List............$62.50
SFB-81. Projector, complete. 1250 ohm field. ST-634. List....$62.50
SFB-81. Projector, complete. 6 volt field. ST-635. List........$62.50
All above Projectors are furnished complete with Driver Speaker, but LESS stand.

EA-5. Adjustable Stand. List $5.00

ST-570. Weatherproof Cover. For projector bell. List..............$2.00

Jensen
FULL RANGE SOUND EQUIPMENT
Known all over the world for predominating high quality



These New Coaxial Speakers bring you the high type of performance only obtainable in a properly designed and co-ordinated two-way reproducing system in which separate speakers handle most effectively their particular portion of the total frequency range. Low frequency performance depends also on the acoustic enclosure provided and Jensen Bass Reflex cabinets are recommended for best results.

The High Frequency Control Systems now furnished or available as accessories, enable you to take full advantage of the extended high frequency range on high quality program material, yet instantly adjust for most acceptable results when some distortion is present. Thus Jensen Coaxial Speakers become more nearly universal for quality, moderate-level reproduction . . . adaptable to a wider range of circumstances and preferences.

HIGH FREQUENCY RANGE CONTROL FURNISHED WITH JAP-60 AND JHP-52

Previously, frequency range controls have been limited to the most expensive types of two-way reproducing systems. Now Jensen engineers have developed a new method of adjusting the high-frequency cut-off which is incorporated in the high channel of a two-channel frequency dividing network. This system is offered for the first time on JAP-60 and JHP-52 Coaxial Speakers, A40-1 Network, and on reproducers incorporating these speakers. A 4-position switch on an extension cable provides choice of four cut-off frequencies, corresponding to typical high-quality single speaker performance as the lower limit, the full range of the coaxial speaker as the upper limit, and two intermediate values.

A control of this type permits the full extended-range performance of the coaxial speaker to be utilized on distortion-free program material, while limited-range performance is immediately available when needed for low and medium quality input such as worn lateral records, overmodulated AM radio, and the like. Control knob is installed on right side of cabinet on complete reproducers.

JAP-60 *(15-Inch)* This coaxial speaker is a high efficiency model ideally suited for such professional applications as FM-AM broadcast monitoring, transcription playback and the like. Efficiency is approximately 3 db higher than that of other 15-inch models listed. Response, when installed in suitable enclosure such as a Bass Reflex cabinet, extends smoothly from 50 to 12,000 cps, with a substantial contribution in the 15,000-cycle region. High Frequency Range Control switch lowers cut-off in four steps to suit program quality. Two channel network effects frequency division at 4,000 cps, with a cut-off slope of 10-12 db per octave. While intended for moderate level operation, maximum power input rating is 14-15 watts. Input impedance, 500 ohms. H.F. Control Switch is furnished complete with knob and escutcheon. Shipping weight, 23½ lbs. Specify ST-600.

List Price **$70.00**

JHP-52 *(15-Inch)* Unqualifiedly recommended for all general applications requiring extended range high fidelity reproduction. Fully equivalent to the JAP-60 in every essential respect, differing only in efficiency which has been lowered slightly to a value suitable for average use at lower cost. Excellent for high quality FM-AM radio receivers, phonograph reproducers, monitoring and similar applications. Complete with H.F. Range Control Switch on extension cable, escutcheon and knob. Input impedance, 500 ohms. Power rating 12 to 14 watts. Specify ST-601.

List Price **$49.50**

HIGH QUALITY OUTPUT TRANSFORMERS

These transformers are designed to match push-pull output tubes to 500 ohms (JAP-60 and JHP-52). No voice coil taps provided. Output is ± 1 db from 30 to 15,000 c.p.s. Encased in metal can; will not mount directly on speakers.

Z 3155—(3,000 C.T. to 500) **Z 3156**—(5,000 C.T. to 500)

Z 3157—(10,000 C.T. to 500)

List Price .... **$9.25†**

Q8P HIGH-FREQUENCY SPEAKER

As used in 15″ coaxials. Designed to reproduce the high frequencies from 4,000 to 15,000 cps., when used with dividing network (such as A40-1) and suitable low frequency speaker. Impedance, 16 ohms. Overall diameter, 5½″. Depth, 3⅝″. P.M. design.

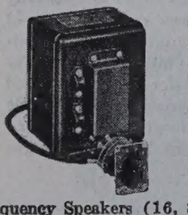
Q8P. H.F. Speaker. ST-589.

List Price **$13.00**

ST-605. Mounting Arms. Set of 4 as used on 15″ coaxials.

List Price **$1.00**

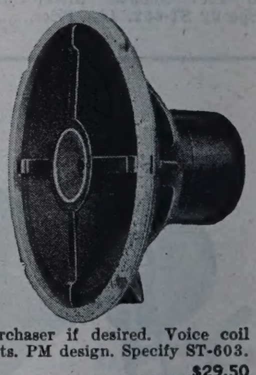
A40-1 NETWORK



This uniquely designed two-channel network is offered to those who wish to assemble their own two-way speaker systems, or add a high-frequency speaker to an existing single speaker. Frequency division is at 4,000 cps., with an atenuation outside pass band of 10-12 db per octave. Low frequency channel will accommodate any suitable 8 ohm 12″ or 15″ speaker. High channel takes one to four Q8P High Frequency Speakers (16, 8 and 4 ohm taps). Input, 500 ohms. High Frequency Range Control Switch feature included. Specify ST-604.

List Price **$26.00**

JCP-40 *(12-Inch)* COAXIAL SPEAKER



The JCP-40 is a new member of the Jensen coaxial family. It makes available at a new low cost the extended range performance inherent in a correctly designed combination of low and high frequency speakers. Physically interchangeable with any full-size 12″ conventional speaker, it is an ideal replacement and modernizing unit. In a suitable enclosure (such as Jensen "Bass Reflex") the JCP-40 gives effective reproduction of the frequency range from 50 to 10,000 cycles with some contribution even in the 12,000-cycle region. Simplified low-cost bridging network is incorporated. Terminals are provided so that accessory ST-606 High Frequency Level Control may be added by purchaser if desired. Voice coil impedance, 6 ohms. Power rating, 8 to 10 watts. PM design. Specify ST-603.

JCP-40. Coaxial Speaker. List Price.. **$29.50**

Accessory H. F. Level Control for JCP-40

A simplified system of fidelity control which can be added by the purchaser to the JCP-40 Coaxial Speaker has been developed. This consists of a properly designed continuously variable resistance network which is easily connected to terminals provided for this purpose on the speakers. The control permits the user to adjust the level contributed by the high frequency speaker, thus permitting instant accommodation to program quality and listener preference. Control can also be used as general purpose 16-ohm 15-watt level control. ⅜″ bushing 1″ long for mounting on heavy cabinets Complete with antique bronze escutcheon and brown bakelite knob.

ST-606. High Frequency Level Control. List Price.. **$4.00**

Jensen

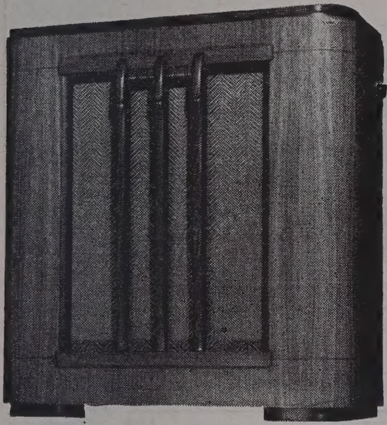
FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

HIGH FIDELITY REPRODUCERS

with Bass Reflex

FURNITURE AND UTILITY MODELS - - COAXIAL AND SINGLE RADIATOR TYPES



TYPE "CR" REPRODUCERS

Type "CR" Reproducers combine arresting beauty and distinction with outstanding performance at moderate cost. They are ideal for broadcast and recording monitoring and audition on FM or AM, for FM-AM receivers, high quality record reproduction, and many other professional and home applications. Cabinets are handsomely styled, suitable for practically any environment, and are well constructed of beautiful striped walnut.

Choice of coaxial or single radiator types is available, with performance in accordance with descriptive data on speakers, each having provided the ideal acoustic environment in a beautiful properly designed Bass Reflex Cabinet. Coaxial reproducers are equipped with high frequency control knob on right side of cabinet. CA-15 cabinet is 27¾" wide, 31½" high, 14" deep. CA-12 is 27¾" wide, 31½" high, 12" deep.

Reproducer	Stock No.	Cabinet	Speaker	Input Impedance	List Price
CRJ-60‡	ST-610	CA-15	JAP-60	500 ohms	**$118.75**
CRT-12	ST-577	CA-12	PM12-CT	6 ohms	**58.50**
CRT-12G*	ST-637	CA-12	G12-RT	6 ohms	**60.25**
CRJ-40‡	ST-607	CA-12	JCP-40	6 ohms	**75.25**
CRJ-52‡	ST-609	CA-15	JHP-52	500 ohms	**98.25**

* 105-120 V. 60 cy. model, complete with Field Supply, A.C. cord and switch.
‡ Coaxial Reproducer, complete with High Frequency Control.

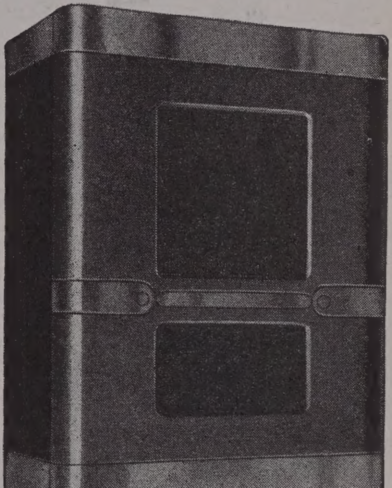
TYPE "MT" REPRODUCERS

Type "MT" Reproducers give performance in every way equivalent to that of more expensive corresponding types. Cabinets are durably constructed of plywood and finished in two-tone brown lacquer. Reproducers incorporate speakers from 8-inch single radiator to 15-inch coaxial sizes, answering every demand for the finest performance in attractive but unpretentious cabinetry.

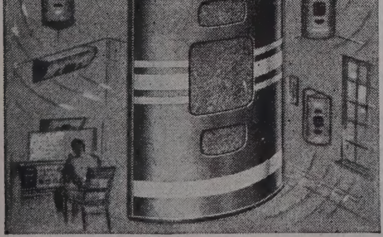
All "MT" Reproducers of course incorporate Bass Reflex for maximum extension of low frequency response. For data on performance of particular reproducers, refer to description of speakers incorporated in reproducer. Coaxial models are equipped with high frequency control knob on right side of cabinet. MT-81 cabinet: 17¼" by 23⅜" by 11". MT-121: 23¼" by 30⅛" by 12⅝". MT-151: 25" by 33¼" by 13⅝".

Reproducer	Stock No.	Cabinet	Speaker	Input Impedance	List Price
MT-8C	ST-559	MT-81	PM8-CT	6 ohms	**$34.60**
MT-8G*	ST-638	MT-81	G8-RT	6 ohms	**39.85**
MT-12C	ST-571	MT-121	PM12-CT	6 ohms	**48.50**
MT-12G*	ST-639	MT-121	G12-RT	6 ohms	**50.25**
MTJ-40‡	ST-611	MT-121	JCP-40	6 ohms	**64.25**
MTJ-52‡	ST-613	MT-151	JHP-52	500 ohms	**84.75**

* 105-120 V. 60 cy. model, complete with Field Supply, A.C. cord and switch.
‡ Coaxial Reproducer, complete with High Frequency Control.



New "Sector-Speaker" .. *a Modern, Multi-Purpose High Fidelity Reproducer*



FUNCTIONALLY DESIGNED TO SOLVE SPACE AND POSITION PROBLEMS

Because it is functionally designed to fit into corners . . . occupy minimum space . . . blend into surfaces . . . the new, modern "Sector Speaker" provides wider latitude, new convenience in installation. The "Sector Speaker" has the form of a quarter cylinder requiring **less than 1 square foot** of floor space. The unit fits into most any 90-degree corner formed by sidewalls, ceiling or floor. Mounted horizontally, sound is projected downward at 45 degrees. Two units combined form semi-cylinder, blend attractively into wall and provide wide angle sound distribution. Reproducers listed incorporated the famous **PM8-CT** (and field coil equivalent G8-RT) extended-range high-fidelity speakers which, in the "Sector" Bass Reflex enclosure, effectively reproduce the full 50 to **10,000-cycle range.** Suitable for broadcast monitoring and other applications requiring moderate level extended-range reproduction. Plywood construction, finished in two-tone brown lacquer. Height, 28". Radius, 13". Power input rating, 6 watts. 6-ohm voice coil.

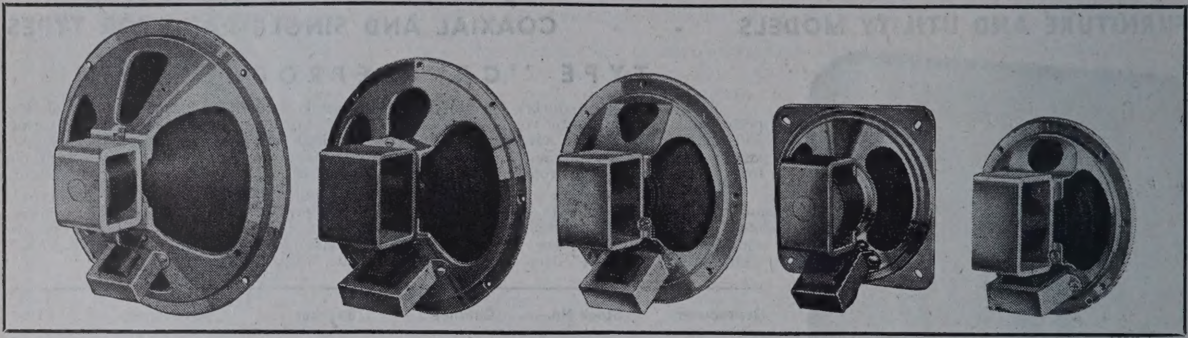
AB-20.	"Sector Speaker." PM type. ST-615. List Price	**$39.75**
AB-20.	"Sector Speaker." For 105-120 v. 60-cy. operation. Complete with Field Supply, AC cord and switch. ST-640. List Price	**$45.00**

Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

"Standard" SPEAKERS . . . *For General Applications*



Exceptionally good speakers for use in radio receivers, low power public address and the like. Not to be confused with many cheaply made inefficient speakers. All speakers are completely dust-proofed and all are supplied less transformer but with facilities permitting easy attachment of the transformers listed on page D-25. Mounting dimensions are standard R.M.A. All field coil models (except 6 volt types) have bucking coil.

WITH FIELD COIL

			Input	FIELD COIL			*List
	Model	Stock No.	Impedance	Watts	Resistance	Watts	Price
4"	H4-S	ST-537	4	1½	450	3	$3.20
	H4-S	ST-538	4	1½	1000	3	3.20
	H4-S	ST-539	4	1½	3000	3	3.20
5"	H5-S	ST-426	4500	2	3000	3	4.25
	H5-S	ST-427	4	2	2750	3	3.30
	H5-S	ST-558	4	2	1800**	3	3.30
	H5-S	ST-449	4	2	1000	3	3.30
	H5-S	ST-450	4	2	450	3	3.30
	H5-S	ST-428	4	2	6 volt	3	3.30
6"	H6-S	ST-429	4	3	2750	3	3.60
	H6-S	ST-430	4	3	1800**	3	3.60
	H6-S	ST-431	4	3	1000	3	3.60
	H6-S	ST-451	4	3	450	3	3.60
	H6-S	ST-432	4	3	6 volt	3	3.60
	E6-RS	ST-565	4	4	2500***	5	5.00
	E6-RS	ST-566	4	4	1800**	5	5.00
	E6-RS	ST-567	4	4	1000	5	5.00
	E6-RS	ST-568	4	4	6 volt	5	5.00
8"	F8-RS	ST-433	4	4	2500	4	4.70
	F8-RS	ST-434	4	4	1800**	4	4.70
	F8-RS	ST-435	4	4	1000	4	4.70
	F8-RS	ST-436	4	4	6 volt	4	4.70
	D8-RS	ST-437	4	5	2500***	6	5.50
	D8-RS	ST-438	4	5	1800**	6	5.50
	D8-RS	ST-439	4	5	1000	6	5.50
	D8-RS	ST-616	4	5	6 volt	6	5.50
10"	G10-RS	ST-440	6	8	2500	8	8.25
	G10-RS	ST-441	6	8	1250***	8	8.25
12"	G12-RS	ST-469	6	9	2500	8	10.20
	G12-RS	ST-470	6	9	1250***	8	10.20

WITH PERMANENT MAGNET

			VOICE COIL			*List
	Model	Stock No.	Impedance	Watts	†Gap Energy	Price
4"	PM4-FS	ST-540	4	2	.212	$3.45
5"	PM5-FS	ST-443	4	2½	.212	3.50
	PM5-DS	ST-522	4	3	.337	5.50
6"	PM6-ES	ST-445	4	3½	.360	4.40
	PM6-DS	ST-455	4	4	.497	5.80
	PM6-GS	ST-646	6	5	.985	7.20
8"	PM8-ES	ST-569	4	4	.251	5.15
	PM8-DS	ST-461	4	5	.663	6.30
	PM8-GS	ST-523	6	7	.985	7.70
10"	PM10-GS	ST-466	6	8	.985	8.80
12"	PM12-GS	ST-475	6	9	.985	11.00

* List Prices are less Transformer, except H5-S ST-426 which includes transformer for Single 43 tube.
** Tapped at 300 ohms. *** Correct field resistance for Jensen FS-10, Field Supply.
† Gap energy expressed here in millions of ergs; indicates relative efficiency of speaker.

TRANSFORMERS AND DESIGN DATA

TRANSFORMERS . . . SPECIAL DESIGNS

Transformers are listed on page D-25 in both fixed and adjustable impedance types, and are shipped separately. There is a minimum charge of 50c list for special speaker designs, including attachment of transformer.

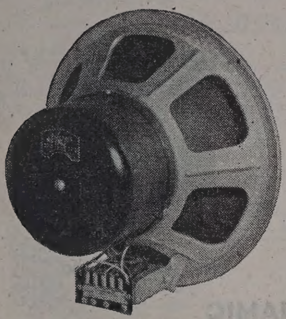
VOLUME CONTROLS

These "L·Pad" type volume controls are highly satisfactory for use in voice coil circuits. Complete with pointer knob and escutcheon.

ST-276	For 6 ohm v.c. 5-watt rating	List $1.75
ST-411.	For 8 ohm v.c. 15-watt rating	List $4.00
ST-606.	For 16 ohm v.c. 15-watt rating	List $4.00

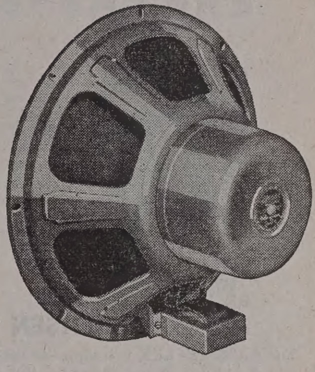
Jensen
FULL RANGE SOUND EQUIPMENT
Known all over the world for predominating high quality

Concert SPEAKERS



These are heavy-duty highly efficient speakers and are widely used for Public Address and high quality Radio and Phonograph applications. All Speakers are designed so that they may be used in the Jensen BASS REFLEX Enclosures and Cabinets. All field coil models have bucking coils.

Facilities are provided for easily attaching any of the transformers listed on page D-25. Speakers are supplied without transformers attached unless specifically ordered, in which case increase list price by $1.00, plus list price of transformer. For special field coils, increase speaker list price $1.00.



WITH PERMANENT MAGNET

	Model	Stock No.	—Voice Coil— Imped.	Watts	†Gap Energy	List Price
8"	PM8-C	ST-230	6	8	1.36	$11.00
10"	PM10-C	ST-246	6	9	1.36	13.50
12"	PM12-C	ST-250	6	10	1.36	15.50
	PM12-H	ST-476	8	12	2.54	23.50
	A12-PM	ST-257	8	15	7.57	41.00

WITH FIELD COIL

	Model	Stock No.	Voice Coil Imp.	Watts	—Field Coil— Resist.	Watts	List Price
8"	C8-RS	ST-457	8	8	2500	8	$11.25
	C8-RS	ST-594	8	8	1250***	8	11.25
10"	C10-RS	ST-463	8	9	2500	8	11.75
	C10-RS	ST-464	8	9	1250***	8	11.75
12"	C12-R	ST-172	8	10	2500	8	12.75
	C12-R	ST-176	8	10	1250***	8	12.75

*** Correct field resistance for Jensen FS-10. Field Supply. See page D-24 for data on Field Supply Units.

† Gap Energy, expressed in millions of ergs, indicates relative efficiency of speakers.

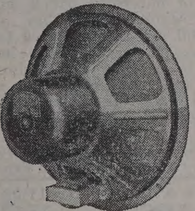
	Model	Std. Fi.	*Hi. Fi.	Voice Coil Imp.	Watts	—Field Coil— Resist.	Watts	List Price
12"	B12-X	ST-343	ST-480	8	12.5	2500	10	20.50
	B12-X	ST-345	ST-479	8	12.5	1250***	10	20.50
	A-12	ST-331	ST-337	8	15	860	14	25.00
	A-12	ST-333	ST-339	8	15	2500	14	25.00
	A-12	ST-335	ST-341	8	15	5400**	14	25.00
15"	B15-X	ST-315	ST-314	8	15	2500	10	23.00
	B15-X	ST-319	ST-318	8	15	1250***	10	23.00
	A-15	ST-311	ST-310	8	17	860	14	29.50
	A-15	ST-307	ST-306	8	17	2500	14	29.50
	A-15	ST-487	ST-488	8	17	5400**	14	29.50

** Correct field resistance for Jensen FS-1, FS-4 and FS-5 field supplies (300 volts).

* High Frequency Response extended to 7500 cps. NOT recommended for General P.A. applications.

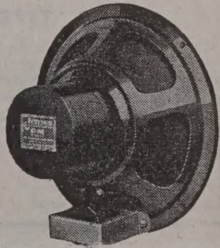
SPECIAL EXTENDED RANGE — HIGH FIDELITY SPEAKERS

For those applications where high fidelity performance extending to 10,000 cps. is required, these Special Extended Range High Fidelity Speakers are recommended. Power handling capacity is limited by permissible distortion. They are designed for home and studio use and will accommodate indoor audiences on the order of 100 people. They are highly qualified for monitoring in broadcast stations and for high fidelity reproduction of voice at relatively low levels.



	Model	Stock No.	—Voice Coil— Imped.	Watts	——Field—— Resistance	Watts	List Price
8"	G8-RT	ST-562	6	5	2500	8	$11.00
	G8-RT	ST-595	6	5	1250***	8	11.00
	PM8-CT	ST-560	6	5	Permanent Magnet		12.75
10"	G10-RT	ST-596	6	6	2500	8	11.50
	G10-RT	ST-597	6	6	1250***	8	11.50
12"	G12-RT	ST-573	6	7	2500	8	12.50
	G12-RT	ST-598	6	7	1250***	8	12.50
	PM12-CT	ST-572	6	7	Permanent Magnet		17.75

*** Correct field resistance for FS-10 Field Supply Unit.



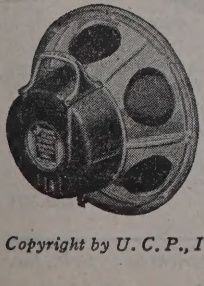
JENSEN AUDITORIUM SPEAKERS

These Auditorium Speakers are undeniably the best known and respected high quality loud speakers available. Series M are recommended as general purpose units. Series V was designed with greatest emphasis on reproduction of voice, but in accomplishing this, bass response has not been sacrificed.

WITH PERMANENT MAGNET

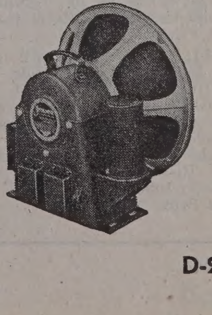
	Model	Stock No.	—Voice Coil— Impedance	Watts	List Price†
18"	PMJ-18	ST-541	8	25	$175.00
	PVJ-18	ST-542	8	25	175.00

WITH FIELD COIL



	Model	Stock No.	—Voice Coil— Imped.	Watts	Field Coil	List Price†
14"	M-20	3063	8	20	*300 volt	$66.00
	V-20	3162	8	20	*300 volt	66.00
	M-10	3005	8	20	110 V. 60 Cy. AC	89.00
	V-10	3105	8	20	110 V. 60 Cy. AC	89.00
18"	M18-DC	5812	8	25	*300 volt	$77.00
	V18-DC	5912	8	25	*300 volt	77.00
	M18-AC	5801	8	25	110 V. 60 Cy. AC	99.00
	V18-AC	5901	8	25	110 V. 60 Cy. AC	99.00

*These fields, (3000 ohms) may be excited from Jensen Model FS-1, FS-4 and FS-5 Field Supplies; other resistance values available on special order at $3.00 increase in List Price.



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FULL RANGE SOUND EQUIPMENT
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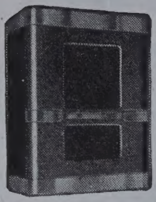
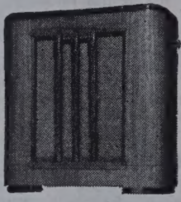
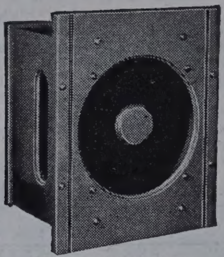

MT CABINETS
BR ENCLOSURES


CA CABINETS


VO ENCLOSURES

No. 3000 and 4000
CABINETS

JENSEN *Enclosures* . . . BASS REFLEX . . . PERI-DYNAMIC

The **BASS REFLEX** principle introduced four years ago by JENSEN is now a byword in the industry. For those who desire the maximum performance from a loudspeaker we recommend these cabinets employing **BASS REFLEX.** Through the use of this principle extra octaves of low frequency performance are available to an extent not possible even with an infinite baffle. A "BR" enclosure will improve the performance of any loudspeaker. For maximum value, however, we always recommend that the speaker be designed for Bass Reflex use. All Jensen Concert, Special and Auditorium Speakers (see page D23) are designed so that they may be used in Bass Reflex enclosures.

TYPE CA CABINETS

Type CA Cabinets are arresting in distinctive beauty of form and finish. Beautifully-grained genuine striped walnut paneling, and attractive styling, make these cabinets suitable for practically any environment in studio, home, or institution. The Jensen Base Reflex principle is of course employed. Two sizes are offered to accommodate twelve inch and fifteen-inch speakers. CA cabinets are an ideal choice for housing high-performance speakers such as the new extended-range high-fidelity coaxial units. They can of course be used for single radiator speakers with outstanding results.

Model	For Speaker Size	Dimensions	List Price
CA-12	12"	27¾"x31½"x12"	$39.50†
CA-15	15"	27¾"x31½"x14"	46.50†

TYPE MT CABINETS

For those who desire an inexpensive but durably constructed plywood cabinet employing Bass Reflex we now offer the type MT cabinet. These are identical in performance and construction to the well known type BR enclosures but are shipped completely assembled.

Model	For Speaker Size	Dimensions	List Price
MT-81	8"	17¼"x23⅜"x11"	$20.55†
MT-121	12"	23¼"x30⅛"x12⅝"	28.50†
MT-151	15"	25" x33¼"x13⅝"	33.00†

TYPE BR ENCLOSURES (Unassembled)

We think an unusually effective compromise has been made between appearance, performance and low cost in these model BR Bass Reflex enclosures. Durably constructed of plywood, finished in rich brown lacquer with contrasting trim. Shipped knocked-down for economy, but easy to assemble.

Model	For Speaker Size	Dimensions	List Price
BR-81	8"	17¼"x23⅜"x11"	$18.90
BR-101	10"	21½"x28" x12⅛"	23.50
BR-121	12"	23¼"x30⅛"x12⅝"	26.50
BR-151	15"	25" x33¼"x13⅝"	31.00
BR-181	18"	27¾"x36" x15⅜"	39.25

TYPE VO ENCLOSURES (Unassembled)

In these enclosures the low frequency response has been purposely attenuated since they are intended primarily for the reproduction of speech. They are accordingly recommended for paging, announcing, and any application involving principally voice reproduction. Constructed of plywood and finished in neutral gray lacquer. Shipped knocked down in the interests of economy.

Model	For Speaker Size	Dimensions	List Price
VO-8	8"	9¾"x11⅞"x 6½"	$ 8.70
VO-10	10"	11¾"x14¼"x 7½"	10.00
VO-12	12"	13¾"x16¾"x 9⅝"	12.50

WALL MOUNTING CABINETS

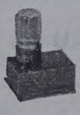
Model 3000 Cabinets are heavily built of hardwood panels finished in ebony black lacquer with natural walnut trim. They are designed for surface mounting on a wall and are recommended for school room, hotel room and extension speaker use. Will accommodate an 8" speaker. The front panel is equipped with three knock-out buttons so that volume controls and selector switches as required may be installed if desired. Model 4000 is larger but otherwise similar. It accommodates a 12" speaker and employs the Bass Reflex principle.

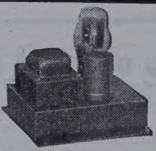
Model	For Speaker Size	Dimensions	List Price
3000	8"	12⅛"x16½"x 8"	$11.25
4000	12"	20" x30" x14¾"	35.00†

FIELD SUPPLIES
Ratings from 10 to 120 Watts

FS-10. Field Supply. Small and inexpensive, yet conservatively designed. May be mounted on amplifier chassis or in speaker cabinet. Easily wired to A.C. line and field from under-chassis lugs. Will supply 10 watts of field power to a 1250-ohm field. For example, it will supply 1-B12X ST-345, 1-UF-20 ST-631 or 2-E6RS ST-565, etc. Complete with 117-Z6GT tube.
List Price $4.25

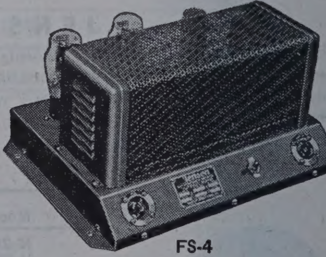
FS-11. Field Supply will fully excite two 10 watt 1,250-ohm fields in series, such as UF-20 ST-631, SFB-81 ST-634, AP-20 ST-642, B12-X ST-345, etc. Will also acceptably excite one Jensen Auditorium speaker (3000-ohm field) or two A-12 speakers with 5400-ohm fields in parallel. Has Hi-Lo tap. Complete with type '80 rectifier tube.
List Price $10.50


FS-10


FS-11

FS-1. Field Supply. Ruggedly constructed and conservatively rated. Will deliver 45 watts continuously. D.C. voltage output, 300 volts at full load. Equipped with fuse, terminal strips and Hi-Lo switch to control output. Has unusually low hum level at rated load. Complete with 5Z3 rectifier tube.
List Price ....$34.00†

FS-5. Field Supply. Similar in construction to model FS-4. Power output, 60 watts. Delivers 200 ma. at 300 volts. Equipped with twist lock plugs and receptacles for both A.C. input and D.C. output. 1.5% ripple voltage at rated output. Complete with 5Z3 tube.
List Price ....$45.00†


FS-4

FS-4. Field Supply. A heavy duty unit with exceptionally good power regulation. 1% ripple voltage at full 120 watts output. D.C. voltage output, 300 volts at 400 ma. at full load. Supplied with twist lock plugs and receptacles for both A.C. input and D.C. output. Has Hi-Lo switch. Complete with 2 5Z3 rectifier tubes.
List Price ....$62.50†

All Jensen Field Supplies are designed for 105-120 volt 60 cycle operation only.

|40 †30

Jensen
FULL RANGE SOUND EQUIPMENT
Known all over the world for predominating high quality

TRANSFORMERS FOR JENSEN SPEAKERS

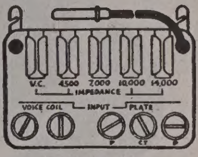
ADJUSTABLE IMPEDANCE TRANSFORMERS

All Jensen Speakers are offered, (1) Less input transformer, (2) With input transformer. Those speakers carried in our stock for immediate shipment are less transformer, but any speaker may be shipped complete with transformer attached when the proper transformer is specified. In such cases add the price of the transformer to the price of the speaker plus the extra charge for attachment of transformer. ($0.50 for Standard Series; $1.00 for all others.) The best way to order speakers is to order them less input transformer and then select the proper transformer from the list on this page. All speakers and transformers are arranged so that you can easily complete the assembly.

MODEL "X"

These transformers are for matching conventional "plate" impedance values. See illustration at right and observe how easily the adjustments are made with flexible lead and pin tip jack. Impedance values are voice coil, 4,500, 7,000, 10,000 and 14,000 ohms and all except voice coil may be center tapped for push pull tubes.

Stock No.	Size	Voice Coil	For Use on Model	List Price
ZX1002	¾x ¾	8	C8RS, C10RS, C12R	$3.10
ZX1004	¾x ¾	6	PM8C, PM12C, G12RS, PM12GS	3.10
ZX1005	⅞x ⅞	8	PM12H, A12PM, B12X, A12, B15X	4.15
ZX1007	1 x1	8	A15	6.50
ZX1012	⅞x ⅞	6	G8RT, G10RT, G12RT, PM8CT, PM12CT, MT8 CRT-12, Section Speaker, JCP-40, MT12	4.15
ZX3000	1 x1¼	8	All Auditorium Speakers	12.00†

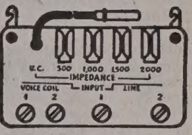


MODEL "X"

MODEL "Y"

Model Y is the same as Model "X" except it is for matching "line" impedance values; 500, 1000, 1500, 2000, and voice coil. See illustration at right.

Stock No.	Size	Voice Coil	For Use on Model	List Price
ZY2001	¾x ¾	6	PM8C, PM12C, G12RS, PM12GS	$3.10
ZY2002	¾x ¾	8	C8RS, C10RS, C12R, PAH8, SPH81, SFB81, FAB8	3.10
ZY2003	⅞x ⅞	8	PM12H, A12PM, B12X, A12, B15X	4.15
ZY2005	1 x1	8	A15	6.50
ZY2007	⅝x ¾	4	E6RS, D8RS, PM8DS, PM6DS, PM5DS	2.25
ZY2008	⅝x ¾	6	G10RS, PM10GS, PM8GS, PM6GS	2.25
ZY2009	⅞x ⅞	6	G8RT, G10RT, G12RT, PM8CT, PM12CT, MT8 CRT-12, Sector Speakers, JCP-40, MT12	4.15
ZY4000	1 x1¼	8	All Auditorium Speakers	12.00†

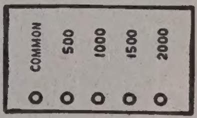


MODEL "Y"

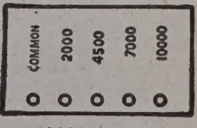
MODEL "P" AND "L"

These Transformers have somewhat less convenient method for making adjustments in the terminal board since a soldering iron is required. But they are lower priced than Models "X" and "Y" and when used in proper application are perfectly satisfactory. Center tap is provided on Types ZP-1021 and ZP 1022, not on others. ZP-1020 and ZL-2020 illustrated at right.

Stock No.	Size	Voice Coil	For Use on Model	List Price
ZP-1020	½x ½	4	H4S, H5S, H6S, F8RS, PM4FS, PM5FS, PM6ES, PM8ES	$1.45
ZP-1021	⅝x ¾	4	E6RS, D8HS, PM8DS, PM6DS, PM5DS	2.00
ZP-1022	⅝x ¾	6	G10RS, PM10GS, PM8GS, PM6GS	2.00
ZL-2020	½x ½	4	H4S, H5S, H6S, F8RS, PM4FS, PM5FS, PM6ES, PM8ES	1.45



MODEL "L"



MODEL "P"

FIXED IMPEDANCE TRANSFORMERS

It is easy to select the proper fixed impedance transformer for any Jensen speaker from the list below. If a design is required not included in the list give complete information regarding primary and voice coil impedance plus the size transformer wanted. Increase list price of transformer 25% for special designs. Example, list price of ¾ x ¾ transformer in special design is $1.70 plus 25%

Stock No.	Ohms Impedance	For Speaker Models	List Price
	Size ½x½		
Z2359	500 to 4	H4S, PM4FS H5S, PM5FS H6S, PM6ES F8RS, PM8ES AP-10, AP-11	$0.95
Z2360	1500 to 4		
Z2253	2500 to 4		
Z2254	4500 to 4		
Z2361	*4500 to 4		
Z2255	7000 to 4		
Z2256	10000 to 4		
Z2362	*10000 to 4		
Z2363	25000 to 4		
Z3051	4 to Grid	AP-10, AP-11	$1.15
	Size ⅝x¾		
Z2364	500 to 4	PM6DS E6RS, D8RS PM8DS, PM5DS	1.45
Z2365	1500 to 4		
Z2366	2500 to 4		
Z2542	*3000 to 4		
Z2367	4500 to 4		
Z2368	*4500 to 4		
Z2369	7000 to 4		
Z2370	10000 to 4		
Z2371	*10000 to 4		
Z2372	25000 to 4		
	Size ⅝x¾		
Z2373	500 to 6	PM8GS, PM6GS G10RS, PM10GS	$1.45
Z2374	1500 to 6		
Z2375	2500 to 6		
Z2376	4500 to 6		
Z2377	*4500 to 6		
Z2378	7000 to 6		
Z2379	10000 to 6		
Z2380	*10000 to 6		
Z2381	25000 to 6		
	Size ¾x¾		
Z1630	500 to 8	C8RS, C10RS C12R	$1.70
Z2383	*3000 to 8		
Z1879	*4500 to 8		
Z1880	7000 to 8		
Z2384	*10000 to 8		
Z1881	*14000 to 8		
	Size ¾x¾		
Z2800	500 to 8	PAH8, FAB8 SPH81, SFB81	$1.70
	Size ¾x¾		
Z1520	500 to 6	PM8C, G12RS PM12GS, PM12C	$1.70
Z2209	*3000 to 6		
Z2382	4500 to 6		
Z1643	*4500 to 6		
Z1642	7000 to 6		
Z1680	*10000 to 6		
Z1582	*14000 to 6		
	Size ⅞x⅞		
Z2666	500 to 6	G8RT, PM8CT G10RT, G12RT PM12CT, MT12 CRT12, JCP40 Sector Speaker MT-8	$2.50
Z2711	*3000 to 6		
Z2727	*4500 to 6		
Z2692	7000 to 6		
Z2813	*10000 to 6		
Z2726	*14000 to 6		
	Size ⅞x⅞		
Z1882	500 to 8	B12X, A12 PM12H, A12PM B15X	2.50
Z1971	*3000 to 8		
Z2385	*5000 to 8		
Z1884	*6600 to 8		
Z1885	7000 to 8		
Z1886	*10000 to 8		
Z1887	*14000 to 8		
†Z3097	500 to 16	Hypex	$5.00
	Size 1x1		
Z1888	500 to 8	A15	$4.25
Z2386	*3000 to 8		
Z2387	*5000 to 8		
Z1890	*6600 to 8		
Z2388	7000 to 8		
Z1891	*10000 to 8		
Z2241	*14000 to 8		
	Size 1x1¼		
Z1892	500 to 8	Auditorium Speakers	$5.75†
†Z777	500 to 4		9.25†
†Z780	500 to 8		9.25†
	Size 1¼x1¼		
†Z2731	500 to 8 or 16	Hypex and Auditorium	$13.00†

* Center Tapped.

† Encased in Metal can; will not mount directly on speaker.

40 †30

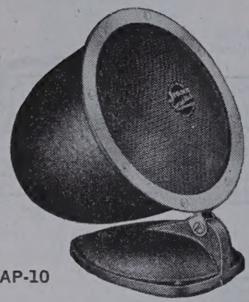
Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

JENSEN *Speech Master* REPRODUCERS

5-Watt "AP-10, 11" for DESK AND PANEL



AP-10

Phone Communication: For amateur, commercial, police, aviation, as separate unit or integral equipment.

C W Telegraph: Aids selectivity, helps signals over-ride QRM and QRN. Husky voice-coil to withstand keying transients.

Intercom and PA: For modern Intercom, Paging and PA at moderate levels. Good "talk-back" performance.

Short-Wave Listening: Better than your regular speaker. Can be used on any receiver.

The truly remarkable performance of these new "Speech Masters" is due to the Peri-Dynamic principle and special radiating system. Normal room level requires less than 0.5 watt input; maximum rating of 5 watts on speech insures **dependability.** Speech reproduction is especially clear, crisp, intelligible . . . yet if required, music can be reproduced with better quality than that of the average "midget" radio.

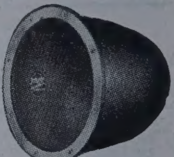
Extra-sturdy construction, overall mechanical protection, double dust-proofing, beautiful streamlined design, exceptional acoustic performance . . . all these combine to set AP-10 and AP-11 "Speech Masters" entirely apart from conventional speakers.

AP-10 Desk Type "Speech-Master." Permanent Magnet design. For desk or wall mounting. Complete with "tilt" adjustment and base. Double dust-proofed, fully enclosed and protected. Internal mounting bracket for ½" x ½" transformer. R.C. cord 36" long. Height 6¾"; depth 5⅛"; diameter 5". Shipping weight, 5¼ lbs. Attractive Hammered Gray finish.

AP-10	**ST-590.**	(4 ohm v.c.). List	**$10.95**
AP-10	**ST-591.**	(45 ohm v.c.). List	**10.95**

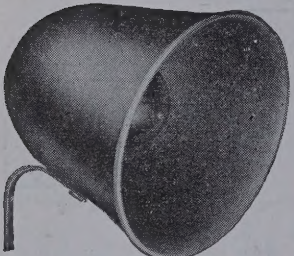
AP-11 Panel Type "Speech-Master." Similar to AP-10 less base and swivel bracket. Has clearance eyelets for mounting screws. Mounts in 4 27/64" cut-out, extends 4½" inside panel (from front surface). Screws and drilling template included. Shipping weight, 3¾ lbs.

AP-11.	**ST-592.**	(4 ohm v.c.). List	**$8.90**
AP-11.	**ST-593.**	(45 ohm v.c.). List	**8.90**



AP-11

6-Watt "AR-10" REFLEX SPEECH MASTER FOR GENERAL APPLICATIONS



This new Jensen reflex type "Speech Master" has many applications for paging, intercom and call systems operating at medium levels under moderate noise conditions. Specially designed reflex horn increases efficiency in mid-frequency range, giving added effectiveness and "punch" to speech quality. Though not classified as a strictly weatherproof device, reflex construction prevents direct access of rain and snow to speaker diaphragm. Voice coil impedance, 4 ohms or 45 ohms. Power rating, 6 watts. Internal space for ½" by ½" transformer (designs stocked for 4-ohm v.c. only). Overall diameter 10". Depth, 8". Complete with mounting bracket. P.M. design.

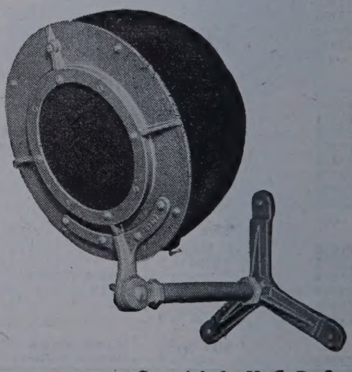
AR-10.	"Speech Master." 4 ohm v.c. ST-643. List Price	**$16.50**
AR-10.	"Speech Master." 45 ohm v.c. ST-644. List Price	**16.50**

25-Watt "AP-20" SPEECH MASTER FOR HIGH-LEVEL PAGING AND CALL SYSTEMS

The AP-20 "Speech Master" is heavy-duty unit for high level paging and call systems in noisy industrial installations. Rated maximum input, 25 watts. Voice coil impedance, 8 ohms. Furnished with eyebolt for overhead suspension but **less** EA-5 stand required for wall mounting. Separable plug for voice coil connections. Overall diameter 13½". Depth 9".

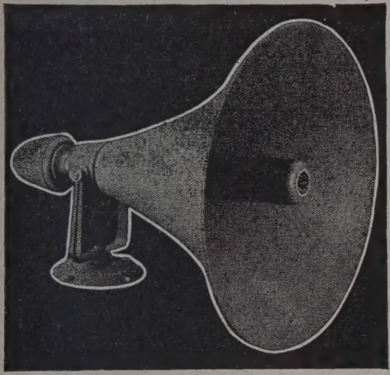
AP-20.	"Speech Master." PM design. ST-641. List Price	**$45.00**
EA-5.	Adjustable Stand. List Price	**5.00**

PAH-8.	Driver Speaker only. PM design. ST-563. List Price	**$20.00**
FAB-8.	Driver Speaker only. Field resistance, 1250 ohms. Requires 10 watts excitation. ST-582. List Price	**20.00**



ATLAS SOUND CORPORATION

"DYNAMIC REFLEX" SOUND PROJECTORS

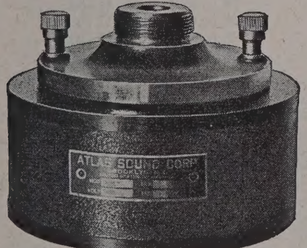


The utmost in sound projection can be expected of the "Dynamic Reflex" Projectors which are highly efficient . . . storm-proof . . . rugged and compact. Constructed of heavy gauge steel spinnings and sturdy iron castings, the "DR" Projectors are finished in a combination battleship gray enamel and gun-metal shrivel.

MODEL DR-42—3½ FT. PROJECTOR—has a bell diameter of 20", overall length of 18", air column length of 3½ ft., acoustic cut-off at 135 cycles, projection angle 80°. Universal strap-iron mounting bracket supplied. Less Driver Unit. ....$24.50 LIST

MODEL DR-54—4½ FT. PROJECTOR—has a bell diameter of 25", overall length of 24", air column length of 4½ ft., acoustic cut-off at 110 cycles, projection angle 90°. Universal strap-iron mounting bracket supplied. Less Driver Unit. ....$36.75 LIST

MODEL DR-72—6 FT. PROJECTOR—has a bell diameter of 29", overall length of 28", air column length of 6 ft., acoustic cut-off at 85 cycles, projection angle 100°. Universal cast malleable iron mounting bracket supplied. Less Driver Unit. ....$55.00 LIST



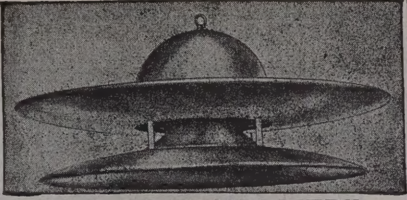
"DYNA-FLUX" P.M. DRIVER UNITS

Designed for "DR" Projectors

Highest conversion efficiency combined with improved frequency response makes these P.M. compression units the best obtainable. Exclusive Atlas Sound features include non-corrosive diaphragms, best grade ALNICO magnets, and "sealed-tite" waterproofing. Special heat-treating, anodizing, parkerizing, and electro-chemical processes insure trouble-free operation. Twelve months guarantee.

MODEL PM-25 STANDARD 18-25 WATT UNIT—has a voice coil impedance of 15 ohms. Frequency response: 60-5500 cycles. Recommended for critical public address applications. Thread size: 1⅜"-18 to fit "DR" Projectors. Baked gray and green two-tone enamel finish. ....$50.00 LIST

MODEL PM-26 "HI-FI" 18-25 WATT UNIT—incorporates a special high-fidelity sound chamber. Voice coil impedance of 15 ohms. Frequency response: 55-6000 cycles. Recommended for ultra-high fidelity applications. Thread size: 1⅜"-18 to fit "DR" Projectors. Baked gray and green two-tone enamel finish. ....$55.00 LIST



360° "CHANDELIER" SPEAKER BAFFLES

Radial sound dispersion is uniform over a complete 360° area with minimum of feedback. Baffles are constructed of heavy gauge steel finished in pearl gray enamel. Large mounting loop permits quick, simple suspension.

MODEL L-360—12" SPEAKER BAFFLE—for all 12" speakers. Overall diameter 31", height 14". ....$29.50 LIST

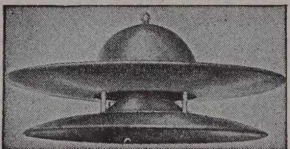
MODEL L-360SL—BAFFLE COMPLETE WITH 12" SPEAKER—The 12" speaker used is a P.M. type with a normal power of 12 watts, peak 16 watts. V. C. imp. 6-8 ohms. $43.50 LIST

MODEL M-360—8" SPEAKER BAFFLE—for all 8" speakers. Overall diameter 24", height 15". ....$19.50 LIST

MODEL M-360HL—BAFFLE COMPLETE with 8" SPEAKER (12 Watts)—Speaker used is a P.M. type with a normal power of 12 watts, peak 16 watts. V. C imp. 6-8 ohms. $35.00 LIST

MODEL M-360LL—BAFFLE COMPLETE with 8" SPEAKER (7 Watts)—Speaker used is a P. M. type with a normal power of 7 watts, peak 10 watts. ....$26.50 LIST

"CHANDELIER, JR." P.M. SPEAKER



Ideal for call systems . . . will also reproduce music with good fidelity. Heavy gauge metal spinnings finished in pearl gray enamel. Overall diameter 17", height 7", weight 6 lbs. The S-360SP comes complete with 5" P.M. cone unit. Rating 5 watts, v. c. imp. 3.5 ohms.

MODEL S-360SP ....$14.50 LIST

ALL-STEEL PARABOLIC BAFFLES FOR 6", 8", 12" SPEAKERS

ALL-STEEL "armor plate" baffles will stand up under the severest service. Exclusive inter-lock seal eliminates rain leakage at the seam. No drilling required as all speaker mounting holes are punched at the factory. Cadmium-plated hardware, and two suspension loops with each baffle. Finish is a durable blue-gray weather resistant enamel.

MODEL SM-6 BAFFLE FOR 6" SPEAKERS—Bell opening 11½", bell length 6", total length 10½", shipping weight 4 lbs. $9.00 LIST

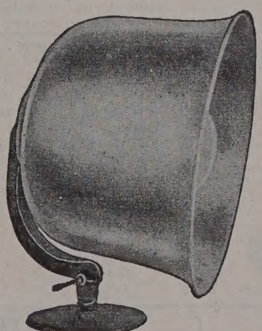
MODEL SM-8 BAFFLE FOR 8" SPEAKERS—Bell opening 17½", bell length 8", total length 14", shipping weight 5 lbs. $10.50 LIST

MODEL SM-12 BAFFLE FOR 12" SPEAKERS—Bell opening 20", bell length 8", total length 18", shipping weight 9 lbs. $12.00 LIST

BAFFLE FIXTURES

MODEL SA-10 SADDLE FIXTURE—includes saddle bracket, ratchet, and wing nut arrangement. Lower casting has ½" female pipe thread for attachment to standard pipe fittings. $3.00 LIST

MODEL ST-8 COMPLETE FIXTURE AND BASE—(illustrated) with heavy iron pipe stem and sturdy base casting. Height 12", base 8". $4.75 LIST



WX "MARINE HORNS" WITH P.M. SPEAKERS

"WX" Marine Horns will withstand a direct driving rain without damage to the cone speaker. Spinnings are heavy gauge metal, finished in weatherproof battleship gray enamel. Speaker hardware supplied.

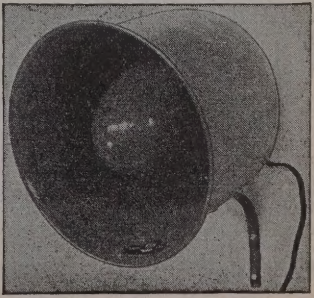
MODEL WX-8 HORN FOR 8" SPEAKERS—has a bell opening of 18" and a depth of 12", shipping weight 15 lbs. .... LIST $21.00

MODEL WX-8HL HORN COMPLETE WITH 8" SPEAKER (12 WATTS)—P.M. Speaker has a normal operating power of 12 watts, peak 16 watts, V. C. imp. 6-8 ohms. Shipping weight 22 lbs.......................... 36.50

MODEL WX-8LL HORN COMPLETE WITH 8" SPEAKER (7 WATTS)—P.M. Speaker has a normal operating power of 7 watts, peak 10 watts. V. C. imp. 6-8 ohms. Shipping weight 20 lbs. 28.50

MODEL WX-B MOUNTING FIXTURE AND BASE—has a heavy cast back plate, goose-neck, and base finished in a durable black crackle. 7.00

"MARINE MIDGET" P.M. SPEAKER



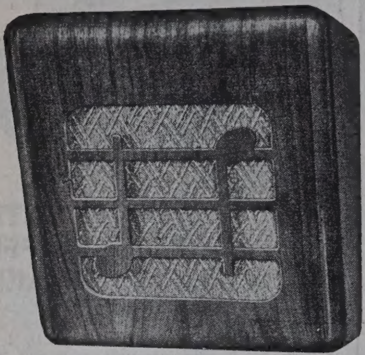
Inverted reflex design offers air column of 15" . . . which allows cone to operate with maximum efficiency. WX-5SP is ideal as a "talk-back" unit in call systems. Entirely storm-proof with speaker protected against mechanical damage. Constructed of heavy gauge metal finished in durable battleship gray enamel. Steel mounting bracket supplied. P.M. Speaker unit supplied has a power rating of 5 watts, v. c. imp. 3.5 ohms. Size of horn: Bell 10", Depth 8", weight 5 lbs.

MODEL WX-5SP HORN AND SPEAKER $13.50 List

We reserve the right—during the present emergency—to change prices and mechanical specifications without notice.

ATLAS SOUND CORPORATION

"MUSIC BOX" Walnut Cabinets



Attractive natural grain walnut cabinets with musical motif, and distinctive gold grille cloth. Sturdy glue-block construction.

MODEL AE-8 FOR 8" SPEAKERS—Dimensions: 12½" high, 11" wide, 7½" deep at top end. Weight 4 lbs. .... $6.25 LIST

MODEL AE-12 FOR 12" SPEAKERS—Dimensions: 15½" high, 14" wide, 10" deep at top end. Weight 7½ lbs. .... $8.25 LIST

MODEL AE-15 FOR 15" SPEAKERS—Dimensions: 20" high, 18" wide, 12" deep at top end. Weight 15 lbs. .... $11.75 LIST

"PERI-CONIC" Triangular Cabinet

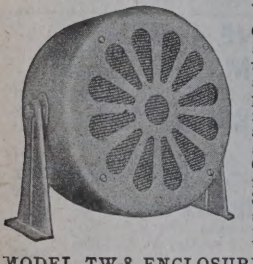
★For 12" Speaker

Triangular cabinet permits corner, side-wall mounting, and cluster arrangements. Bass reflex aids response of any 12" speaker. Sturdy cabinet of natural walnut, with gold grille cloth. Dimensions: overall height 19½", width 19", maximum depth 9", inside depth 7".

MODEL TR-12 ENCLOSURE.........$13.00 LIST

"TWO-WAY" ENCLOSURE

★For 8" Speaker



Offers two-directional sound projection with the use of a single 8" speaker. Case is of pressed steel finished in gray enamel. Metal-cloth grille for both sides of the enclosure Convenient adjustable mounting brackets. Speaker hardware supplied. Case diameter 10", depth 5". Wt. 4 lbs.

MODEL TW-8 ENCLOSURE...........$7.00 LIST

SPEAKER POWER VOLUME CONTROL

1
2
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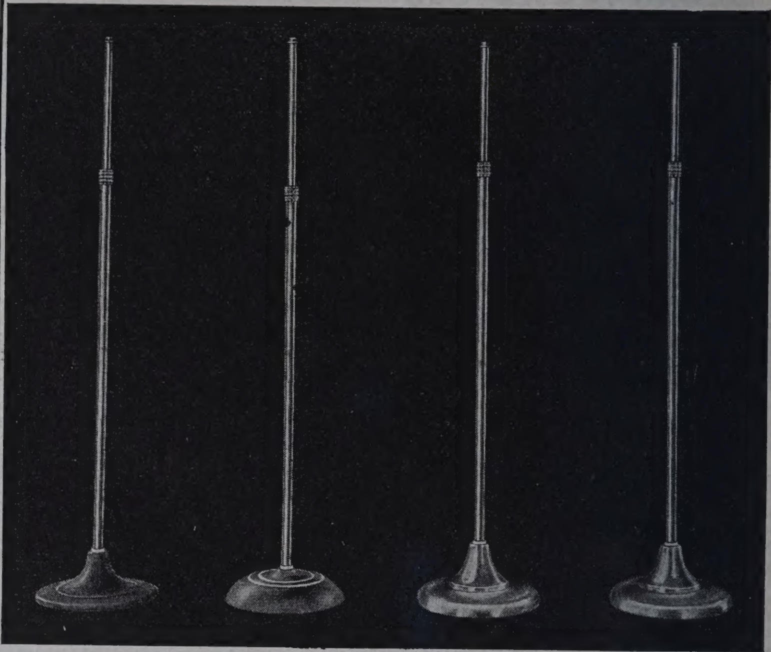
GAIN
10
ATLAS SOUND

MODEL RC-1 VOLUME CONTROL—Constant impedance control for use across voice coil of any speaker, providing uniform tapered, gradual control from full ON to OFF position. Includes special tapered wire wound potentiometer, fixed vitreous resistor for power absorption at minimum volume settings, etched indicator plate, and red molded bar knob mounted on gun-metal finished steel case (Atlas CB Box). Diameter 3". .... $3.50 LIST

MODEL CB "UTILITY" CONNECTOR AND CONTROL BOX—Identical to the one used for RC-1 Control. For switch mountings, connector plug-ins, microphone connection terminals, and other applications. Snap-buttons cover holes not in use; rubber grommet supplied. .... $1.00 LIST

ATLAS *"Velvet Action"* Microphone Floor Stands



MS-8C   MS-9C   MS-11C and MS-12C   MS-18C

Velvet Action means no slipping . . . no scratching . . no noise. Positive assurance against sudden dropping of the telescoping tube, and subsequent damage to the microphone. Telescoping sections are of heavy tubing with triple "super-chrome" plating. All models have a ⅞" diameter outer tube, and a ⅝" inner tube. Microphone thread size is ⅝"-27 male. All bases furnished with rubber bumper pads to protect floor surfaces.

MODEL	BASE FINISH	BASE DIAMETER	ADJUSTMENT	WEIGHT	LIST PRICE
MS- 8C	Black Crackle	10"	36 to 67"	8 lbs.	$7.25
MS- 9C	Gun-Metal, Red Rings	10½"	37 to 68"	9 lbs.	9.00
MS-11C	"Super-Chrome"	10½"	38 to 69"	11 lbs.	10.00
MS-12C	Gun-Metal Crackle	10½"	38 to 69"	11 lbs.	8.50
MS-18C	"Super-Chrome"	10½"	38 to 69"	18 lbs.	12.50
MS-10C*	Gun-Metal Crackle	16½"	38 to 69"	10 lbs.	9.50
MS-31C†	Gun-Metal, Red Rings	10½"	19 to 67"	9 lbs.	10.50

* MS-10C has a three-legged cast base which offers the utmost in stability. Tube sections same as shown above.

† MS-31C has a "take-down" tube arrangement of three sections. Base is same as the MS-9C shown above.

"VELVET ACTION" DESK STANDS

Model DS-3

Tubes on all stands finished in triple-plate "super-chrome." Bases available in chromium or black crackle finish. Adjustable models DS-3 and DS-4 use the exclusive "Velvet Action" friction clutch. All desk stands have a 6" base mounted on scratch-proof felt bumpers. The TS-5 is a special Banquet Stand using the ⅞" and ⅝" telescoping tubes as used on the Atlas Floor Stands, and a base of 8". Standard ⅝"-27 male microphone thread on all models.

MODEL	TYPE	HEIGHT	BASE	LIST PRICE
DS-1	Fixed	8"	Black Crackle	$2.25
DS-2	Fixed	8"	Chromium	3.25
DS-3	Adjustable	10 to 15"	Chromium	4.50
DS-4	Adjustable	10 to 15"	Black Crackle	3.50
TS-5	Adjustable	18 to 32"	Gun Metal Crackle	6.50

"HOLD-TITE" SHIELDED CONNECTORS

F-1 Female Connector

Accommodates mike cable sizes up to 5/16" o. d. Constructed of solid brass machined parts, chrome-plated. Ingenious internal clamp for shield contact, spring extension for cable protection.

MODEL F-1 FEMALE CONNECTOR—Thread size: Female ⅝"-27, permitting use with Atlas and other standard connectors. .... $.55 LIST

MODEL M-1 MALE CONNECTOR—Thread size: Male ⅝"-27, to fit F-1 and other female connectors. $.45 LIST

MODEL P-1 PHONE PLUG—Thread size: Male ⅝"-27. Use with F-1 to make a handy combination connector. .... $.50 LIST

MODEL C-1 CHASSIS CONNECTOR—Thread size: Male ⅝"-27. Practical terminal for input circuits. $.35 LIST

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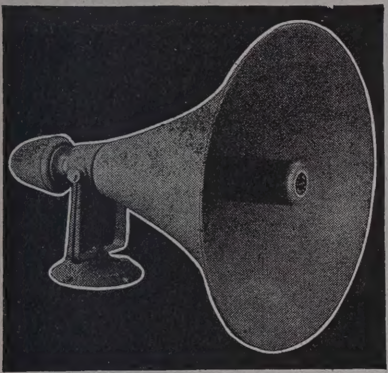
ATLAS SOUND CORPORATION

"DYNAMIC REFLEX" SOUND PROJECTORS



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ATLAS SOUND CORP

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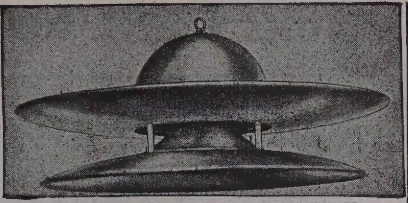
MODEL PM-26 "HI-FI" 18-25 WATT UNIT—incorporates a special high-fidelity sound chamber. Voice coil impedance of 15 ohms. Frequency response: 55-6000 cycles. Recommended for ultra-high fidelity applications. Thread size: 1⅜"-18 to fit "DR" Projectors. Baked gray and green two-tone enamel finish. ....$55.00 LIST



360° "CHANDELIER" SPEAKER BAFFLES

Radial sound dispersion is uniform over a complete 360° area with minimum of feedback. Baffles are constructed of heavy gauge steel finished in pearl gray enamel. Large mounting loop permits quick, simple suspension.

MODEL L-360—12" SPEAKER BAFFLE—for all 12" speakers. Overall diameter 31", height 14". ....$29.50 LIST

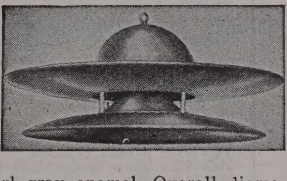
MODEL L-360SL—BAFFLE COMPLETE WITH 12" SPEAKER—The 12" speaker used is a P.M. type with a normal power of 12 watts, peak 16 watts. V. C. imp. 6-8 ohms. $43.50 LIST

MODEL M-360—8" SPEAKER BAFFLE—for all 8" speakers. Overall diameter 24", height 15". ....$19.50 LIST

MODEL M-360HL—BAFFLE COMPLETE with 8" SPEAKER (12 Watts)—Speaker used is a P.M. type with a normal power of 12 watts, peak 16 watts. V C imp. 6-8 ohms. $35.00 LIST

MODEL M-360LL—BAFFLE COMPLETE with 8" SPEAKER (7 Watts)—Speaker used is a P. M. type with a normal power of 7 watts, peak 10 watts. ....$26.50 LIST

"CHANDELIER, JR." P.M. SPEAKER



Ideal for call systems . . . will also reproduce music with good fidelity. Heavy gauge metal spinnings finished in pearl gray enamel. Overall diameter 17", height 7", weight 6 lbs. The S-360SP comes complete with 5" P.M. cone unit. Rating 5 watts, v. c. imp. 3.5 ohms.

MODEL S-360SP ....$14.50 LIST

ALL-STEEL PARABOLIC BAFFLES FOR 6", 8", 12" SPEAKERS

ALL-STEEL "armor plate" baffles will stand up under the severest service. Exclusive inter-lock seal eliminates rain leakage at the seam. No drilling required as all speaker mounting holes are punched at the factory. Cadmium-plated hardware, and two suspension loops with each baffle. Finish is a durable blue-gray weather resistant enamel.

MODEL SM-6 BAFFLE FOR 6" SPEAKERS—Bell opening 11½", bell length 6", total length 10½", shipping weight 4 lbs. $9.00 LIST

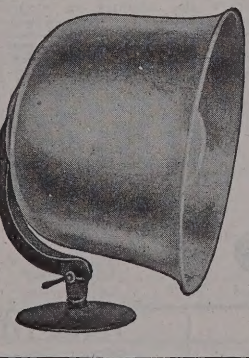
MODEL SM-8 BAFFLE FOR 8" SPEAKERS—Bell opening 17½", bell length 8", total length 14", shipping weight 5 lbs. $10.50 LIST

MODEL SM-12 BAFFLE FOR 12" SPEAKERS—Bell opening 20", bell length 8", total length 18", shipping weight 9 lbs. $12.00 LIST

BAFFLE FIXTURES

MODEL SA-10 SADDLE FIXTURE—includes saddle bracket, ratchet, and wing nut arrangement. Lower casting has ½" female pipe thread for attachment to standard pipe fittings. $3.00 LIST

MODEL ST-8 COMPLETE FIXTURE AND BASE—(illustrated) with heavy iron pipe stem and sturdy base casting. Height 12", base 8". $4.75 LIST

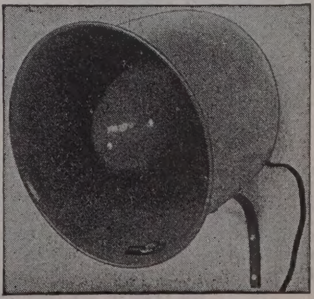


WX "MARINE HORNS" WITH P.M. SPEAKERS

"WX" Marine Horns will withstand a direct driving rain without damage to the cone speaker. Spinnings are heavy gauge metal, finished in weatherproof battleship gray enamel. Speaker hardware supplied.

	LIST
MODEL WX-8 HORN FOR 8" SPEAKERS—has a bell opening of 18" and a depth of 12", shipping weight 15 lbs.	$21.00
MODEL WX-8HL HORN COMPLETE WITH 8" SPEAKER (12 WATTS)—P.M. Speaker has a normal operating power of 12 watts, peak 16 watts, V. C. imp. 6-8 ohms. Shipping weight 22 lbs....................	36.50
MODEL WX-8LL HORN COMPLETE WITH 8" SPEAKER (7 WATTS)—P.M. Speaker has a normal operating power of 7 watts, peak 10 watts. V. C. imp. 6-8 ohms. Shipping weight 20 lbs.	23.50
MODEL WX-B MOUNTING FIXTURE AND BASE—has a heavy cast back plate, goose-neck, and base finished in a durable black crackle.	7.00

"MARINE MIDGET" P.M. SPEAKER



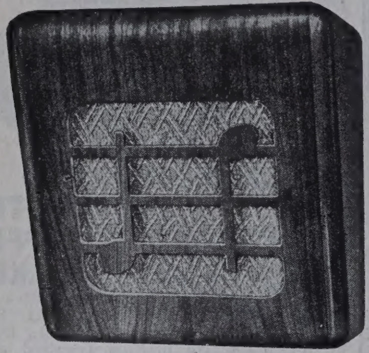
Inverted reflex design offers air column of 15" . . . which allows cone to operate with maximum efficiency. WX-5SP is ideal as a "talk-back" unit in call systems. Entirely storm-proof with speaker protected against mechanical damage. Constructed of heavy gauge metal finished in durable battleship gray enamel. Steel mounting bracket supplied. P.M. Speaker unit supplied has a power rating of 5 watts, v. c. imp. 3.5 ohms. Size of horn: Bell 10", Depth 8", weight 5 lbs.

MODEL WX-5SP HORN AND SPEAKER $13.50 List

We reserve the right—during the present emergency—to change prices and mechanical specifications without notice.

ATLAS SOUND CORPORATION

"MUSIC BOX" Walnut Cabinets



Attractive natural grain walnut cabinets with musical motif, and distinctive gold grille cloth. Sturdy glue-block construction.

MODEL AE-8 FOR 8" SPEAKERS—Dimensions: 12½" high, 11" wide, 7½" deep at top end. Weight 4 lbs. .... $6.25 LIST

MODEL AE-12 FOR 12" SPEAKERS—Dimensions: 15½" high, 14" wide, 10" deep at top end. Weight 7½ lbs. .... $8.25 LIST

MODEL AE-15 FOR 15" SPEAKERS—Dimensions: 20" high, 18" wide, 12" deep at top end. Weight 15 lbs. .... $11.75 LIST

"PERI-CONIC" Triangular Cabinet

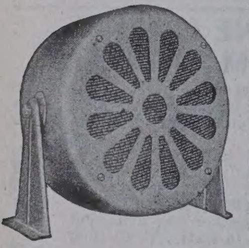
★For 12" Speaker

Triangular cabinet permits corner, side-wall mounting, and cluster arrangements. Bass reflex aids response of any 12" speaker. Sturdy cabinet of natural walnut, with gold grille cloth. Dimensions: overall height 19½", width 19", maximum depth 9", inside depth 7".

MODEL TR-12 ENCLOSURE.........$13.00 LIST

"TWO-WAY" ENCLOSURE

★For 8" Speaker



Offers two-directional sound projection with the use of a single 8" speaker. Case is of pressed steel finished in gray enamel. Metal-cloth grille for both sides of the enclosure Convenient adjustable mounting brackets. Speaker hardware supplied. Case diameter 10", depth 5". Wt. 4 lbs.

MODEL TW-8 ENCLOSURE...........$7.00 LIST

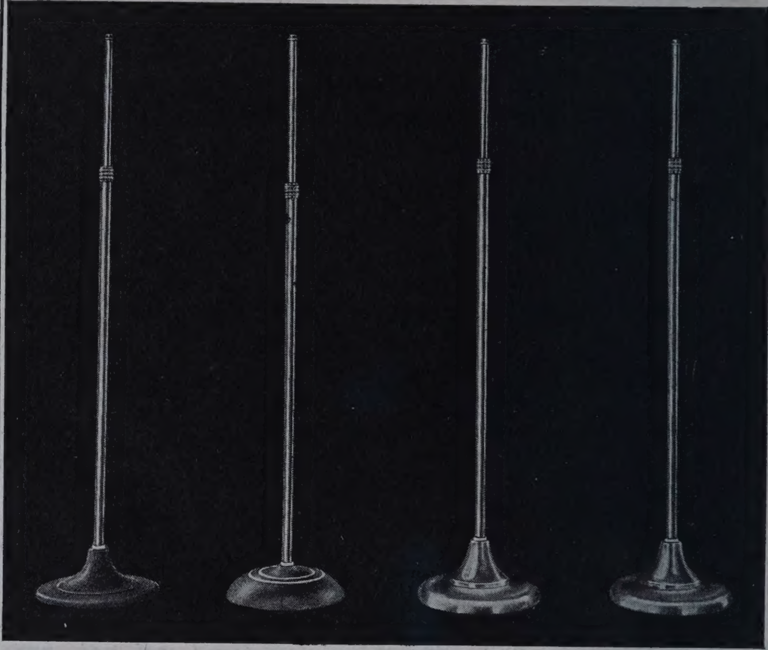
SPEAKER POWER VOLUME CONTROL

GAIN
ATLAS SOUND

MODEL RC-1 VOLUME CONTROL—Constant impedance control for use across voice coil of any speaker, providing uniform tapered, gradual control from full ON to OFF position. Includes special tapered wire wound potentiometer, fixed vitreous resistor for power absorption at minimum volume settings, etched indicator plate, and red molded bar knob mounted on gun-metal finished steel case (Atlas CB Box). Diameter 3". .... $3.50 LIST

MODEL CB "UTILITY" CONNECTOR AND CONTROL BOX—Identical to the one used for RC-1 Control. For switch mountings, connector plug-ins, microphone connection terminals, and other applications. Snap-buttons cover holes not in use; rubber grommet supplied. .... $1.00 LIST

ATLAS *"Velvet Action"* Microphone Floor Stands



MS-8C MS-9C MS-11C and MS-12C MS-18C

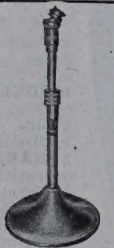
Velvet Action means no slipping . . . no scratching . . no noise. Positive assurance against sudden dropping of the telescoping tube, and subsequent damage to the microphone. Telescoping sections are of heavy tubing with triple "super-chrome" plating. All models have a ⅞" diameter outer tube, and a ⅝" inner tube. Microphone thread size is ⅝"-27 male. All bases furnished with rubber bumper pads to protect floor surfaces.

MODEL	BASE FINISH	BASE DIAMETER	ADJUSTMENT	WEIGHT	LIST PRICE
MS- 8C	Black Crackle	10"	36 to 67"	8 lbs.	$7.25
MS- 9C	Gun-Metal, Red Rings	10½"	37 to 68"	9 lbs.	9.00
MS-11C	"Super-Chrome"	10½"	38 to 69"	11 lbs.	10.00
MS-12C	Gun-Metal Crackle	10½"	38 to 69"	11 lbs.	8.50
MS-18C	"Super-Chrome"	10½"	38 to 69"	18 lbs.	12.50
MS-10C*	Gun-Metal Crackle	16½"	38 to 69"	10 lbs.	9.50
MS-31C†	Gun-Metal, Red Rings	10½"	19 to 67"	9 lbs.	10.50

* MS-10C has a three-legged cast base which offers the utmost in stability. Tube sections same as shown above.

† MS-31C has a "take-down" tube arrangement of three sections. Base is same as the MS-9C shown above.

"VELVET ACTION" DESK STANDS

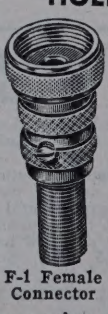


Model DS-3

Tubes on all stands finished in triple-plate "super-chrome." Bases available in chromium or black crackle finish. Adjustable models DS-3 and DS-4 use the exclusive "Velvet Action" friction clutch. All desk stands have a 6" base mounted on scratch-proof felt bumpers. The TS-5 is a special Banquet Stand using the ⅞" and ⅝" telescoping tubes as used on the Atlas Floor Stands, and a base of 8". Standard ⅝"-27 male microphone thread on all models.

MODEL	TYPE	HEIGHT	BASE	LIST PRICE
DS-1	Fixed	8"	Black Crackle	$2.25
DS-2	Fixed	8"	Chromium	3.25
DS-3	Adjustable	10 to 15"	Chromium	4.50
DS-4	Adjustable	10 to 15"	Black Crackle	3.50
TS-5	Adjustable	18 to 32"	Gun Metal Crackle	6.50

"HOLD-TITE" SHIELDED CONNECTORS



F-1 Female Connector

Accommodates mike cable sizes up to 5/16" o. d. Constructed of solid brass machined parts, chrome-plated. Ingenious internal clamp for shield contact, spring extension for cable protection.

MODEL F-1 FEMALE CONNECTOR—Thread size: Female ⅝"-27, permitting use with Atlas and other standard connectors. .... $.55 LIST

MODEL M-1 MALE CONNECTOR—Thread size: Male ⅝"-27, to fit F-1 and other female connectors. $.45 LIST

MODEL P-1 PHONE PLUG—Thread size: Male ⅝"-27. Use with F-1 to make a handy combination connector. .... $.50 LIST

MODEL C-1 CHASSIS CONNECTOR—Thread size: Male ⅝"-27. Practical terminal for input circuits. $.35 LIST

We reserve the right—during the present emergency—to change prices and mechanical specifications without notice.

See and Hear

KAINER SOUND PROJECTORS

NEW KAINER *"High Intensity"* REFLEX TRUMPETS

Another Forward Step In Sound Projection! The same practical and unique construction that has been used so successfully in all KAINER Weatherproof and Reflex Horns is the basis of the new design of these Reflex Trumpets. Like all other KAINER Projectors, a special spun steel alloy is employed, assuring excellent acoustic properties, ruggedness and durability.

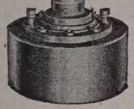
The mounting fixture supplied with both the R-T21 and R-T25 models is easily adjustable to all practical angles and is constructed of cast malleable iron with rust protective finish. The driver unit is directly attached to a cast section which is integral with the primary reflex tube and mounting fixture, insuring a rigid, permanently aligned assembly. The use of a casting which holds the secondary air column in place assures a perfect alignment of the air column and rigidity of the entire assembly.

These NEW Reflex Trumpets are beautifully finished with gray high lustre weatherproof baked-on art enamel which adds to the acoustic value and durability of the finish.

A moulded rubber rim attached to the beading on the edge of the bell is supplied as standard equipment, as illustrated. Both models are equipped with a threaded attachment 1⅜ inches diameter by 18 thread to use KAINER P. M. Driver Units or any other standard driver units.

Permanent Magnet Driver Units—Manufactured to the highest of electrical and mechanical standards and of the finest available materials. Three models designed to take care of all public address work, rated at the same handling capacity in watts. The chief difference is in the increased efficiency in power output and in tonal range evident in the larger models. Diaphragms are breakdown proof at the rated capacity of 25 watts continuous operation and the unit is waterproof from all angles.

All units are equipped with 1⅜″ by 18 thread connection to fit either the R-T21 or the R-T25 Trumpet models.

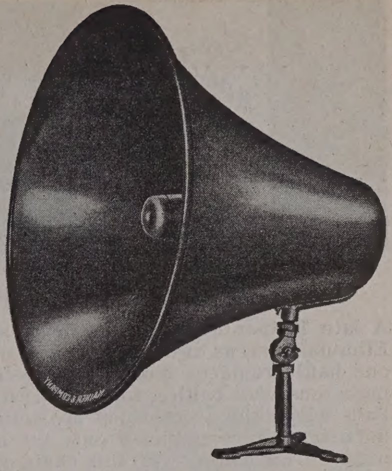


Model No. DU-2

Continuous Power Cap.	25 watts
Freq. Response	60-5500 cycles
Rec. Trumpets	R-T21 & R-T25
Net Weight	7 lbs.
List Price	$53.00

Model No. DU-1

Continuous Power Cap.	25 watts
Freq. Response	70-5000 cycles
Rec. Trumpets	R-T21 & R-T25
Net Weight	4 lbs.
List Price	$33.00

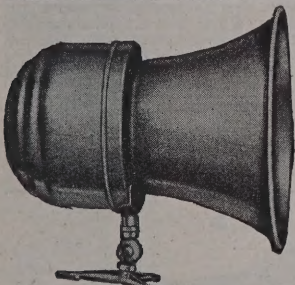


Model R-T25

Overall Length	21″
Bell Diameter	25″
Acoustic Length	4′ 10″
Projection Angle	90 degrees
Ship. Wt.	Approx. 20 lbs.
List Price	**$37.00**

Model R-T21

Overall Length	18″
Bell Diameter	21″
Acoustic Length	4′
Projection Angle	80 degrees
Ship. Wt.	Approx. 16 lbs.
List Price	**$23.00**



All Steel Exponential Sound Projector for 12" Speakers

Model J-12 all steel sound projector is the result of severe laboratory and field tests. It will accommodate all types of 12″ speakers with or without matching transformers, including those with extra heavy permanent magnets.

Sturdily constructed of heavy spun steel alloy, it is light in weight yet strong enough to stand the abuse of heavy vibration under load as well as rough handling.

Breather opening is screened. Entire projector is beautifully finished with high lustre, baked-on, weatherproof art enamel. The malleable iron fixture to which the lower bracket can be attached is welded to the baffle and extends up the sides to include two of the speaker bolts which assures the minimum of vibration in the entire instrument.

The malleable iron base and bracket carries a tilting dog-toothed adjustment with a swivel and lock nut.

Model J-12

Overall Length	20″
Circular Mouth Opening	17″
Flare Extension	11″
Shipping Weight	16 lbs.
J-12—Base only, includes fixture with ½″ I. P. S. tapping	**$15.00**
J-12-B—Adjustable bracket with base as illustrated	$2.50
J-8-B—Mounting fixture, includes flange elbow and pipe connection	$1.00

All Steel Exponential Sound Projector for 8" Speakers

Model J-8 is specially designed to accommodate all types of 8″ speakers and is very similar in construction to Model J-12 above.

The sturdy spun steel alloy construction is light in weight yet very strong. The baffle is spun in only two pieces, with the exclusive KAINER wedge fit feature which overcomes vibrations under extreme load.

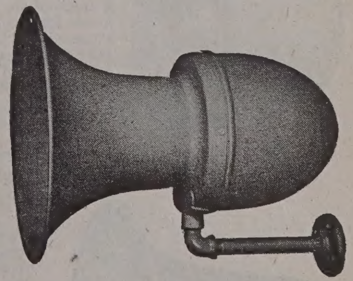
Built with perforated breather opening. Both baffle and bracket are attractively finished with a new high lustre, weatherproof, baked-on art enamel.

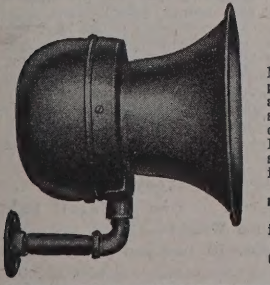
The malleable iron fixture to which the lower bracket extension can be attached is firmly welded to the baffle, and is tapped so that any distance from the floor, wall or ceiling may easily be obtained by using ½″ pipe, nipples, couplings, etc.

Bracket attachment furnished separately consists of flange base with length of pipe and elbow for either wall or upright mounting.

Model J-8

Overall Length	17″
Circular Mouth Diameter	14″
Flare Extension	9″
Shipping Weight	8 lbs.
J-8—Baffle **List Price**	**$12.25**
J-8—Mounting Fixture Only—**List Price**	**$1.00**





All Steel Exponential Sound Projector for 6" Speakers

Model J-6 is used extensively in parking lots, garages, small playgrounds, hallways, stock rooms, hotels, hospitals, warehouses and other places where call systems are needed. A perfect accessory to installations where 6″ speakers must withstand all weather conditions and heavy service. Severe tests have proved that the Model J-6 Baffle produces clearer and more perfectly projected speech than when unprotected speakers or flat type speaker housings are used.

Has perforated breather opening. The shell is built to accommodate any 6″ P.M. speaker with matching transformer.

Constructed of heavy spun steel alloy all parts attractively finished in the new high lustre, weatherproof, baked-on art enamel.

The malleable iron fixture is welded to the baffle and tapped so that any distance off the wall or ceiling may be obtained by attaching required length of ½″ pipe, nipples, couplings, ect., thus insuring a permanent and rigid installation.

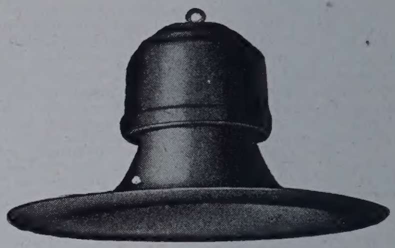
Model J-6

Overall Length	9½″
Circular Mouth Opening	10″
Flare Extension	5″
Shipping Weight	4½ lbs.
J-6—Baffle **List Price**	**$7.50**
J-6B—Mounting Fixture Only—**List Price**	**$1.00**

See and Hear

KAINER SOUND PROJECTORS

CHANDELIER BAFFLE

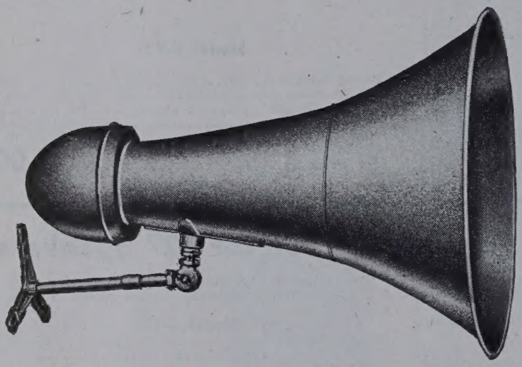


A late Kainer development in speaker baffles for uniform coverage. Eliminates areas of concentrated sound, tends to reduce feed back. This one baffle replaces multiple speaker installations when desirable and numerous wall baffles. Ideal for restaurants, clubs, cabarets and dance halls where the necessity of projecting sound close to the performers is important—recommended only for ceiling heights above 12 feet. Suspended from ceiling with link chain or sash cord—easy to install. Accommodates any heavy duty 12″ P.M. Speaker.

CONSTRUCTION: Spun steel alloy finished in attractive grey baked enamel. SIZE: Diameter, 32″; height 17″.

PRICE: Complete without speaker, List.. $30.00

AIR COLUMN HORN Model A-C-8



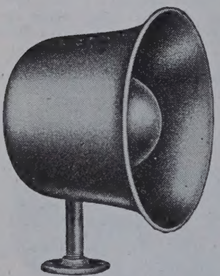
Specially effective for all outdoor work: Baseball Parks, Circuses, Athletic Fields, and all installations where power and direction of sound are particularly required. ¶The A-C-8 Air Column Horn is well suited for applications where sound must be projected great distances and with the minimum of feedback. When using a microphone under conditions where ordinary baffles would be unsatisfactory, this horn with its uni-directional qualities will allow in most cases double or more power to be used before the feed back point is reached. ¶The back of this horn is completely closed, eliminating to the best possible extent, interference to person or persons using a microphone, and allowing the best possible placement of speakers either directly above and slightly forward of the microphone, or to the left or right of the microphone and slightly forward. Both of these positions eliminate bothersome "double talk" and "lag" which is objectionable to audiences. This method of placement gives the best illusion that the sound is coming directly from the person using the microphone. ¶The bracket attachment is welded to the horn, properly balanced, and mounting fixtures with base can be furnished as a complete unit, permitting exceptionally convenient means for installation. ¶THE KAINER AIR COLUMN HORN is constructed of heavy spun steel alloy, light in weight, yet very strong. All parts finished with durable baked art metal enamel. Designed for 8″ HEAVY DUTY Speaker—Bell Opening 24″—Overall Length 36″.

Horn Complete with Mounting Fixture, but without Base and Adjustable Attachment..List **$34.50**

Base and Fixture..List **$3.00**

KAINER WEATHERPROOF HORNS

Model WH-5



FOR 5″ SPEAKERS—COMPACT AND EFFICIENT

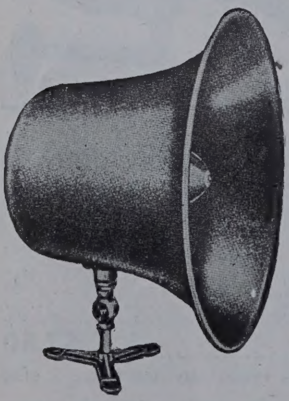
The inverted reflex design is similar to that used in the WH-6 and WH-8 models, which aids materially to the performance of any good cone speaker. ¶For all purpose use, including use as a microphone in Talk-Back installations—wide frequency range, good for both music and voice. ¶The very substantially constructed bell and reflex cone are of spun steel alloy, finished with gray baked art metal enamel. The bell and cone are mounted on an aluminum alloy casting to which the base fixture is also attached. This insures a rigid assembly and makes it convenient to install 5″ cone speaker direct to the aluminum casting.

SPECIFICATIONS

Over All Length—8″. Bell Opening—11″. Ship. Wt. 5½ lbs.

Horn complete with base..List **$10.**

Model W-H-8

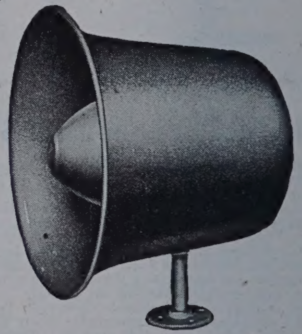


Constructed for all unsheltered outdoor and indoor use: Factories, Airports, Sound Trucks, Police and Fire Cars, Stadiums, etc., etc. ¶Exceptionally sturdy construction—Possible physical damage to the cone speaker is overcome due to its inverted position. The speaker faces the inside of the horn. ¶This construction will withstand exposure to rain, snow and wind. ¶The bell and housing are spun of heavy gauge steel alloy, light in weight, yet very strong; and all parts are heavily finished with a durable baked art metal enamel. ¶Bracket attachment is welded to the horn, properly balanced, and mounting fixture with base can be furnished as a complete unit, permitting exceptionally convenient means for installation on Sound Trucks, Wall, or Portable Use. ¶Designed for 8″ HEAVY DUTY Speaker. Bell Opening 22¾″. Overall Length 17¾″—Height from Base 27″.

Horn Complete Without Base and Fixture.

List **$25.85**

Base and Fixture..List **$2.50**



Model WH-6

Construction similar to Model WH-8 except size is for 6″ speaker. ¶Used for all unsheltered outdoor and indoor installations, factories, airports, sound trucks, police and fire cars, stadiums, etc. ¶The bell and speaker housing are of spun heavy gauge steel alloy, all parts finished with a durable art baked enamel. ¶Heavy aluminum casting firmly holds speaker. Mounting is attached to casting on which the speaker is mounted. ¶Very sturdy construction throughout. Designed for 6″ Heavy Duty P.M. Speaker.

SPECIFICATIONS

Bell Opening—15″. Over All Length 12″.

Shipping Weight—11 lbs.

Horn complete with base and mounting fixture..List **$15.00**

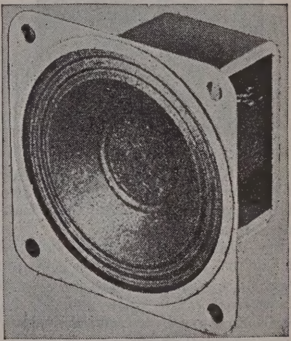
Cinaudagraph Speakers, inc.

REPLACEMENT SPEAKERS
2'' TO 12''

Cinaudagraph Speakers offer the most complete range of speakers available, for replacement, small P. A. installation and inter-office communicators. Each speaker has the inherent Cinaudagraph quality.

PERMANENT MAGNET

Cat. No.	Model No.	Size	Norm. Watts	Peak Watts	U.C. Imp. Ohms	Ship. Wt.	List Price
2ZMP	RM2	2"	1	1½	3-4	7 oz.	$2.20
3ZMP	RM3	3"	1½	2	3-4	8 oz.	2.35
30MP	RM3-1	3"	2	2½	5	1¼ lbs.	3.30
4ZMP	RM4	4"	2	2½	3-4	10 oz.	2.45
5ZMP	RM5	5"	2	2½	3-4	12 oz.	2.55
50MP	RM5-12	5"	2½	3	5	1½ lbs.	3.30
60MP	RM6-4	6"	3½	4	5	1¾ lbs.	3.80
8RMP	RM8-5	8"	4	5½	6-8	2 lbs.	——
8EMP	RM8-6	8"	5	6	6-8	3¼ lbs.	6.00
12AMP	RM12-11	12"	8	10	6-8	5½ lbs.	11.00



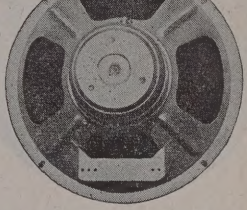
ELECTRO-DYNAMIC

Cat. No.	Model No.	Size	Trans.	Field Ohms	Output Cap.	V. Coil Imp.	Ship. Wt.	List Price
3W1	RE3-A	3"	None	450	2	4-5	10 oz.	$ 2.20
3W2	RE3-B	3"	None	2750	2	4-5	10 oz.	——
4W1	RE4-A	4"	None	450	2	4-5	10 oz.	2.35
4W2	RE5-B	4"	None	2750	2	4-5	10 oz.	——
V51L	RE5-B	5"	S-43	2750	3	4-5	1½ lbs.	3.40
	RE5-C	5"	S-42	1800T300	3	4-5	1½ lbs.	——
V53L	RE5-A	5"	S-42	1000	3	4-5	1½ lbs.	——
V54L	RE5-D	5"	S-25L6	450	3	4-5	1½ lbs.	3.40
V55L	RE5-F	5"	S-41	6 Volt	3	4-5	4½ lbs.	——

(5" series available less transformer—indicate by letter "L" after Cat. No.—deduct $0.85 list)

Cat. No.	Model No.	Size	Trans.	Field Ohms	Output Cap.	V. Coil Imp.	Ship. Wt.	List Price
J61	RE6-B	6"	Univ.	2750	5	5	3 lbs.	4.50
J62	RE6-C	6"	Univ.	1800T300	5	5	3 lbs.	4.50
J63	RE6-A	6"	Univ.	1000	5	5	3 lbs.	4.50
J64	RE6-F	6"	Univ.	6 Volt	5	5	3 lbs.	4.50

(6" series available less transformer—indicate by letter "L" after Cat. No.—deduct $1.25 list)



Cat. No.	Model No.	Size	Trans.	Field Ohms	Output Cap.	V. Coil Imp.	Ship. Wt.	List Price
J81	RE8-B	8"	Univ.	2500	6	6-8	4 lbs.	6.00
J82	RE8-C	8"	Univ.	1800T300	6	6-8	4 lbs.	6.00
J83	RE8-A	8"	Univ.	1000	6	6-8	4 lbs.	6.00
J84	RE8-D	8"	Univ.	6 Volt	6	6-8	4 lbs.	6.00

(8" series available less transformer—indicate by letter "L" after Cat. No.—deduct $1.65 list)

Cat. No.	Model No.	Size	Trans.	Field Ohms	Output Cap.	V. Coil Imp.	Ship. Wt.	List Price
10J1	RE10-B	10"	Univ.	2500	8	6-8	7 lbs.	9.25
10J2	RE10-C	10"	Univ.	1800T300	8	6-8	7 lbs.	9.25
10J3	RE10-A	10"	Univ.	1000	8	6-8	7 lbs.	9.25

(10" series available less transformer—indicate by letter "L" after Cat. No.—deduct $1.65 list)

Cat. No.	Model No.	Size	Trans.	Field Ohms	Output Cap.	V. Coil Imp.	Ship. Wt.	List Price
12U1	RE12-B	12"	Univ.	2500	10	6-8	8 lbs.	10.50
12U2	RE12-C	12"	Univ.	1800T300	10	6-8	8 lbs.	10.50
12U3	RE12-A	12"	Univ.	1000	10	6-8	8 lbs.	10.50

(12" series available less transformer—indicate by letter "L" after Cat. No.—deduct $2.25 list)

TRANSFORMERS

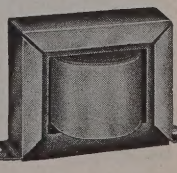
Universal or Single Output and Line

Transformers are for general applications, and are arranged so that they can be mounted on the speaker. The Universal Transformers are tapped on the primary winding to provide matching impedances to the output tube or line as indicated. The Universal Output Transformers are center tapped and provide primary impedance terminations for the popular output tubes. The Universal Line Transformers are tapped to provide matching impedances of 500, 1000, 1500 ohms.

The transformers listed below have been especially designed for use with these speakers. They are highly efficient and provide the correct matching for maximum output efficiency. Model 1290 voice coil to grid transformer is enclosed in a metal shell.

Trans. No.	Type	Output Tube	Core Size	Fo' Speakers	Load Imp. Ohms	List Price
21H25	Single	25L6	½"x½"	2"—3"—4"—5"	2000	$0.85
				PM. and Electros	4500	.85
21F55	Single	25A7	½"x½"	" " "	7000	.85
21J75	Single	42	½"x½"	" " "		See note
1290	V. C. to grid		½"x½"	" " "		1.25
U21	Universal	*	½"x½"	" " "	Universal	1.25
L21	500 ohm	Line	½"x½"	" " "	500	.85
UL21	Universal	Line	½"x½"	" " "	500-1000-1500-2000	1.25
U85	Universal	*	⅝"x⅝"	(6"—8")	Universal	1.65
L85	500 ohm	Line	⅝"x⅝"	(6"—8")	500	1.25
UL85	Universal	Line	⅝"x⅝"	(6"—8")	500-1000-1500-2000	1.65
U43	Universal	*	¾"x¾"	(10"—12")	Universal	2.25
L43	500 ohm	Line	¾"x¾"	(10"—12")	500	1.65
UL43	Universal	Line	¾"x¾"	(10"—12")	500-1000-1500-2000	2.25
U87	Universal	*	⅞"x⅞"	(12")	Universal	3.00
L87	500 ohm	Line	⅞"x⅞"	(12")	500	2.75
UL87	Universal	Line	⅞"x⅞"	(12")	500-1000-1500-2000	3.00
U110	Universal	*	1"x1¼"	(13"—18")	Universal	4.00
UL110	Universal	Line	1"x1¼"	(13"—18")	500-1000-1500	4.00

*Universal output transformers for most output tubes—single, PP parallel or Class B.



NOTE: THIS UNIT DISCONTINUED FOR THE DURATION.

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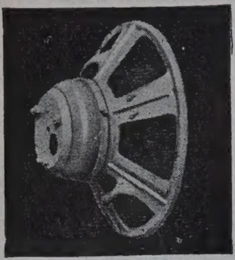
WRITE FOR COMPLETE CATALOG

Cinaudagraph Speakers, inc.

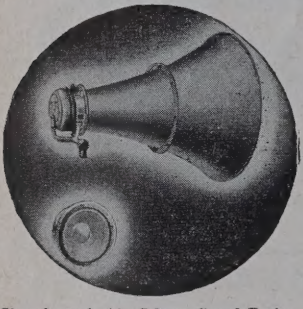
PUBLIC ADDRESS SPEAKERS AND AIR COLUMN UNITS

The ultimate in precision built, high quality reproducers for the largest or smallest installation.



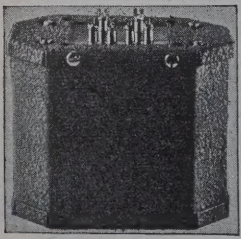
There is a Cinaudagraph speaker for every P.A. requirement from inter-communicating systems to stadium sound projection. All Electro-dynamics have bucking coils.

The speakers listed, with the exception of the 15" and 18", are provided with transformer mounting brackets so that transformers can be easily attached. The speakers, however, are supplied without transformers attached.



Cinaudagraph Air Column Sound Projectors differ from the conventional exponential horn unit. The high efficiency and broad frequency response of these cone type speakers overcome the various deficiencies and failures of the conventional dynamic units.

The air column speakers are made to withstand rigorous conditions imposed by weather and rough handling out-of-doors. The composition of the tough and pliant weather proof cone eliminates failures due to the crystallization of the flexing portions of the conventional brittle metal diaphragms.



The wide range transformers are for use where the highest efficiency is required. These transformers are sealed in metal cases fully protected against moisture, but due to their design can not be mounted on the speaker.

PERMANENT MAGNET

Cat. No.	Model No.	Size	Norm. Watts	Peak Watts	Factor of Merit	Voice Coil Dia.	Ship. Wt. Lbs.	List Price
PM 8-9	EZ 8-7	8"	6	13	173	1"	5	$ 8.25
PM 8-11	EZ 8-10	8"	8	15	216	1"	5½	10.50
PM 10-12	NZ 10-10	10"	9	16	216	1"	7	12.50
PM 12-13	FZ 12-10	12"	10	18	216	1"	7½	14.00
PM 12-16	FB 12-11	12"	13	21	334	1¼"	10	22.50
*PM 12-18	FY 12-12	12"	15	23	430	1½"	12	....
*PM 13-21	DX 13-12	13"	21	29	556	2"	25	....
*PM 15-18	FY 15-12	15"	15	23	430	1½"	20	....
*PM 15-28	FW 15-13	15"	25	33	754	2½"	45	....
*PM 18-33	DU 18-12	18"	28	43	920	3½"	64	....
MZ 6-10	Mallard	6" Marine Speaker					3¼	14.50
*MZ 8-10	Mallard	8" Marine Speaker					3¾	....

ELECTRO-DYNAMIC

Cat. No.	Model No.	Size	Norm. Watts	Peak Watts	Field Ohms	Field Volts	Voice Coil Dia.	Ship. Wt. Lbs.	List Price
PE 8-10A	EZE	8"	8	14	1000	90V. DC	1"	6	$ 7.75
PE 8-10B	EZE	8"	8	14	2500	140V. DC	1"	6	7.75
PE 10-12A	NZE	10"	10	16	1000	1[illegible]0V. DC	1"	7	10.00
PE 10-12B	NZE	10"	10	16	2500	150V. DC	1"	7	10.00
PE 12-16A	FBE	12"	13	21	1000	110V. DC	1¼"	12	15.00
PE 12-16B	FBE	12"	13	21	2500	175V. DC	1¼"	12	15.00
PE 12-20A	FYE	12"	15	25	1000	110V. DC	1½"	16	22.50
PE 12-20B	FYE	12"	15	25	2500	175V. DC	1½"	16	22.50
*PE 15-35	FWE	15"	30	40	350	110V. DC	2½"	50	....
*PE 18-40	DUE	8"	35	45	300	110V. DC	3½"	75	....

Air Column Units and Accessories

For high power installations where maximum coverage is desired, Cinaudagraph Air Column Units are highly recommended.

COMPLETE ASSEMBLY—INCLUDES DRIVER UNIT, EXPONENTIAL HORN, HANDLE OR SUPPORTING BRACKET—(No Stand)

Cat. No.	Model No.	Peak Watts	Unit No.	Horn No.	Handle or Bracket No.	Ship. Wt. Lbs.	List Price
*CM 25K	FBAK	30	CM 25A	KA	U	33	....
*CM 30K	FYAK	35	CM 30	KA	U	35	....
*CM 40WH	HWAW	45	CM 40	SW	HA	52	....
*CM 60WS	SUAW	65	CM 60	SW	SA	63	....

Driver Units

Cat. No.	Model No.	Factor of Merit	Voice Coil Dia.	Norm. Watts	Peak Watts	Ship. Wt. Lbs.	List Price
*CM 25A	FBA	334	1¼"	20	30	8	....
*CM 30	FYA	430	1½"	25	35	10	....
*CM 40	HWA	754	2½"	35	45	30	....
*CM 60	SUA	920	3½"	55	65	40	....

All of the above are supplied with 6-8 ohm voice coils.

Exponential Horns

Cat. No.	Bell Dia.	Over-all Length	Cut-off	Ship. Wt. Lbs.	List Price
*KA	24"	39" (including back cover)	150 cps.	25	....
*SW	32"	30" (from driver to bell opening)	150 cps.	23	....

Accessories

B-FS	Telescopic floor stand with heavy cast base—maximum height 8 ft., black crackle finish	33	$17.50
T1	Line transformer fully encased; 1500 ohms tapped 1000-500 ohms. 40 watts, max.	6	12.00
T2	Line transformer fully encased; 1500 ohms tapped 1000-500 ohms. 60 watts, max.	10	15.00
U	Supporting stand for KA horn	4	4.50
SA	Handle and supporting bracket for CM 60WS	3	5.75
HA	Handle and supporting bracket for CM 40WH	3	4.50

WIDE RANGE TRANSFORMERS

Wide range transformers designed for use with these speakers assure maximum efficiency.

UNIVERSAL OUTPUT				UNIVERSAL LINE		
Cat. No.	Undistorted Peak Watts	List Price	For Speaker	Cat. No.	Undistorted Peak Watts	List Price
WR 1	Up to 8	$4.00	10" - 12"	WR 5	Up to 8	$4.00
WR 2	Up to 12	5.25	12" - 13"	WR 6	Up to 12	5.25
WR 3	Up to 18	6.50	13" - 15"	WR 7	Up to 18	6.50
WR 4	Up to 40	8.50	15" - 18"	WR 8	Up to 40	8.50

***DISCONTINUED FOR DURATION**

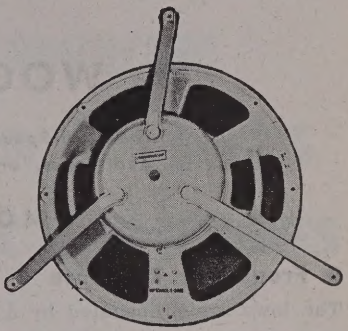
WRITE FOR COMPLETE CATALOG

Cinaudagraph Speakers, inc.

DISCONTINUED FOR DURATION

LINEAR STANDARD SPEAKERS

CINAUDAGRAPH linear standard speakers represent the closest approach to the ideal from the viewpoint of uniform response, low wave form distortion, high efficiency and dependability. These speakers are used extensively for high fidelity service in broadcast monitoring, custom built radio sets, high quality PA, frequency modulation receivers, motion picture sound work, and wherever exacting requirements must be met.

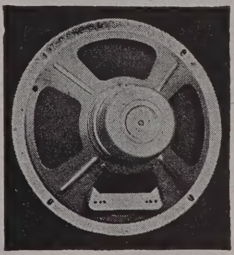


- HIGH FIDELITY — The unequaled high fidelity characteristics of the linear standard speakers are achieved through the use of special polyfibrous cones plus efficient magnetic structures.
- LOW DISTORTION — Both the electrical and mechanical elements of these speakers have been carefully related to effect a minimum of harmonic distortion combined with a high rate of decay, which overcomes the detrimental effects of "tails" and "hangovers."

PERMANENT MAGNET

VOICE COIL IMPEDANCE 6-8 OHMS

Model	Size	Norm. Watts	Peak Watts	Factor of Merit	Voice Coil Dia.	Ship. Wt.	List Price
LM8-8	8″	6	10	216	1″	5½ lbs.	....
LM10-10	10″	8	13	216	1″	7 lbs.	....
LM12-13	12″	10	18	334	1¼″	10 lbs.	....
LM12-15	12″	12	20	430	1½″	12 lbs.	....
LM13-23	13″	20	28	754	2½″	38 lbs.	....
LM15-25	15″	22	30	754	2½″	45 lbs.	....
LM18-30	18″	25	40	920	3½″	64 lbs.	....



ELECTRO-DYNAMIC

VOICE COIL IMPEDANCE 6-8 OHMS

Model	Size	Norm. Watts	Peak Watts	Field Ohms	Field Volts	Voice Coil Size	Ship. Wt.	List Price
LE8-8	8″	6	10	1000	110V-DC	1″	7 lbs.	....
LE10-10	10″	8	13	1000	110V-DC	1″	8 lbs.	....
LE12-16	12″	13	21	600	110V-DC	1½″	17 lbs.	....
LE15-30	15″	25	35	350	110V-DC	2½″	50 lbs.	....
LA15-30	15″	25	35		110V-AC	2½″	60 lbs.	....

The speakers listed, with the exception of the 15″ and 18″, are provided with transformer mounting brackets so that transformers can be easily attached. The speakers, however, are supplied without transformers attached.

NOTE:—Due to the extreme high-fidelity response on the linear standard speakers it is important that the input or the output of the amplifying system should be free from all forms of distortion. If such a combination is not available then it is recommended that the public address series of speakers be used.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WRITE FOR COMPLETE CATALOG

Cinaudagraph Speakers, inc.

DISCONTINUED FOR DURATION

FM-12 CINAXIAL SPEAKER
AND
WOOFER - TWEETER SERIES

The Ideal Speaker for FM, Broadcast Monitor, Auditorium, or Other High Fidelity Service

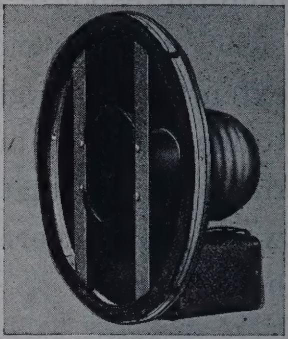
MODEL FM-12

● Frequency Response

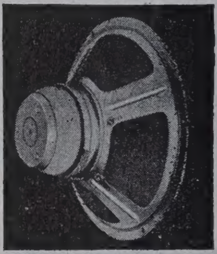
The lows are propagated by a heavy 12-inch speaker capable of efficient response from 45 cps. to 2500 cps. with proper baffle. The higher frequencies are reproduced by the smaller unit which is designed to function efficiently from 2000 cps. to 15,000 cps.

● Power

There is a limit to which power can be applied without distortion. Much depends upon the perfection of the audio system. Under ideal conditions the Cinaxial unit will handle up to 15 watts easily. However, the very nature of FM requirements does not call for "Power"; rather, fidelity of tone at room level.



FM-12

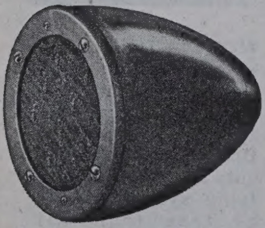


CINAUDAGRAPH Permanent Magnet Woofer Speakers are specifically designed for low frequency service in woofer-tweeter combinations. In addition to excellent low frequency response, the design effects negligible cone break-up and minimum "hangover."

Model	Size	Undist. Norm. Watts	Peak Watts	Factor of Merit	Voice Coil Dia.	Ship. Wt.	List Price
FM-12	*12"	10	15	430	1½"	18 lbs.	....
	† 5"		*Woofer		†Tweeter		
WM12-15	12"	10	15	430	1½"	12 lbs.	....
WM13-23	13"	15	23	754	2½"	38 lbs.	....
WM15-25	15"	15	25	754	2½"	45 lbs.	....
WM18-30	18"	18	30	920	3½"	64 lbs.	....
LM5-15T	5"	10	15				....
PM6-T	6"	5	7				....

CN1500V — 1500-cycle cross over network to 6 to 8 ohm output. ....

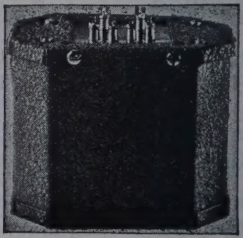
CN1500L — 1500-cycle cross over network to 500 ohm line. ....



LM-5-15T—new high frequency permanent magnet tweeter fully enclosed, response—5DB, 1,500 to 17,000 cycles, for 15 watt combinations. For 20 to 30-watt woofer-tweeter combinations, two of these tweeters should be used.

● Network

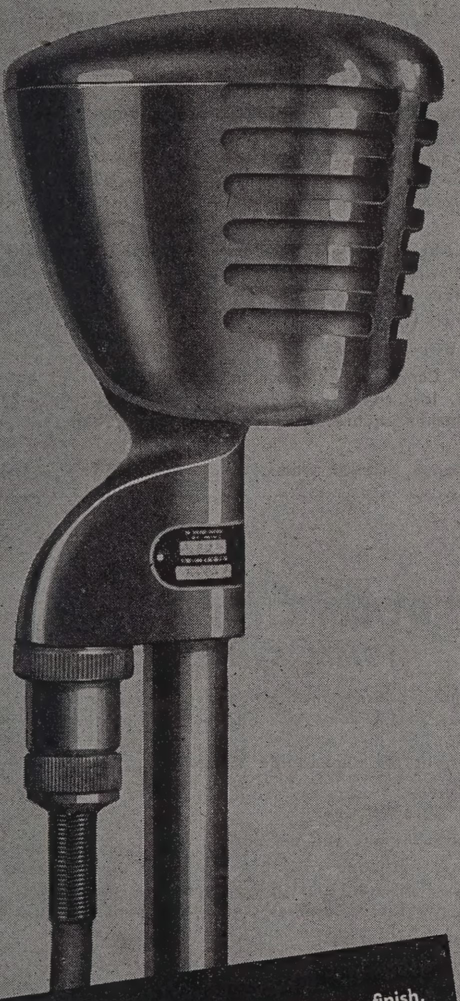
It is essential that a correctly designed network be employed when using a two speaker system to allocate properly the frequencies to their respective speakers. The FM-12 Cinaxial system utilizes a cross over frequency of 1500 cps. which has been ascertained to be the most efficient point of change on this system. Networks may be purchased separately—see listing above.



WRITE FOR COMPLETE CATALOG

UNIVERSAL MICROPHONE CO.

INGLEWOOD, CALIFORNIA



D20 SERIES; furnished with Satin Chrome finish. Standard 5/8″-27 thread stand coupling. Complete with 25′ low loss cable and detachable connector. Dust proof cover included.

Dimensions: 2 5/8″ Wide, 3″ High, 3 1/4″ Deep.
Shipping Weight: 3 3/4 Pounds.

Available in the following models:

Model D20A..	50 Ohms..	$22.50 List Price
Model D20B..	200 Ohms..	$25.00 List Price
Model D20C..	500 Ohms..	$25.00 List Price
Model D20H..	40,000 Ohms..	$25.00 List Price

ANNOUNCING THE NEW D20 SERIES DYNAMIC MICROPHONES

A quality microphone with extended frequency range and conventional dynamic response characteristics built with Universal's new "DYNOID" construction.

Most modern in appearance with departure from the conventional streamlining in that while it has all the elements of streamlined motion, it has a definite stability which enhances its lines. Its design makes it fit in the most modern of settings as well as most classic and yet it is rugged enough for industrial applications.

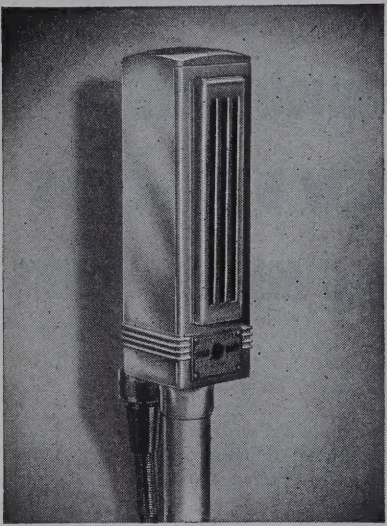
In addition to the rugged "DYNOID" construction, several other features make the D20 Series outstanding microphones. Mounted on substantial "Micro - Adjust Swivel," the unit may be positioned anywhere throughout a 60° angle without disturbing the balance or appearance of the microphone. The Universal "Micro-Adjust Swivel" brings to the Public Address field the first and only swivel action which is smooth and that stays put. It responds in a velvet smooth manner without being frail and indeterminant in position. A definite departure from the "knuckle-joint" swivel prevalently in use.

Internal element is mechanically isolated, minimizing "stand and cord noises." Built-in cable connector is easily accessible without interference with microphone. Unaffected by weather conditions and vibration. Designed for use both indoors and outdoors with a frequency range of 50 to 8000 cycles at —54 db as referred to one volt per bar. The D20 is suitable for recording, public address, transmitters or wherever a full-ranged dynamic microphone is desired.

In view of the demand for this unit we must state that we will be compelled to abide first by Government Priority Regulations in handling orders for this microphone, then in the absence of such regulations priority will be given orders as they are received.

UNIVERSAL MICROPHONE CO.

INGLEWOOD, CALIFORNIA



"808" VELOCITY MICROPHONE

5MM Series

For use where a smooth responding microphone with a smart modern design is required. Suitable for stage presentations, orchestras and general public address applicators indoors. Bi-directional response allows for pick-up of audience reaction without "feed-back." This microphone does not pick-up sound from the sides, thus it eliminates much of the feed-back difficulty encountered with other types of microphones.

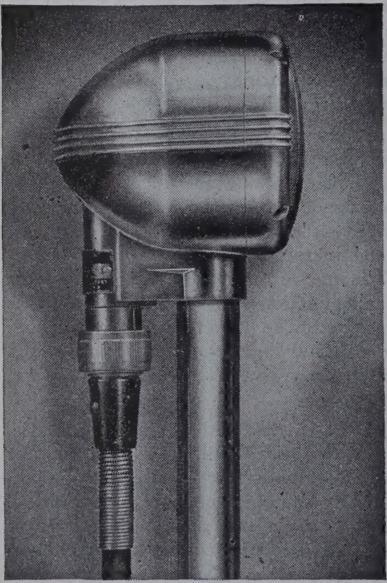
Uses sensitive 5MM ribbon element designed to reduce phase shift at high frequencies. This feature improves the high frequency response over the conventional velocity microphone.

Frequency response: 40-10,000 Cps.

Output level: 63 db below one volt per bar.

Satin Chrome plate. Complete with locking type connector at housing and 25 foot rubber covered, low capacity cable. Stand coupling: ⅝"—27 thread. Microphone size: 1¼ inches square by 4½ inches high. Shipping weight: 2 pounds.

Model 808. High Impedance (40,000 Ohms.)
List Price.. $24.50



"308" DYNAMIC MICROPHONE

15MM Series

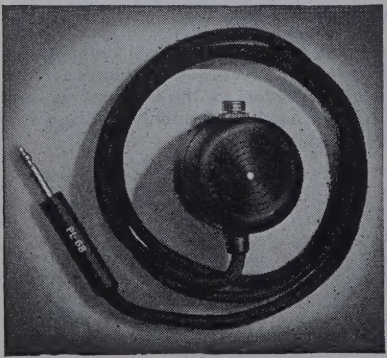
Ideal for general public address installations, recording, orchestras, dramatic presentations. Well built 15MM voice coil and substantial suspension provides the excellent reproduction of this reliable instrument. Its small size gives it "Artist Appeal." Well built for dependable service. Unaffected by temperature or humidity.

Frequency response: 50-8000 Cps.

Output level: 63 db below one volt per bar.

Satin Chrome plated. Microphone size: 2¼ inches in diameter, depth 2⅜". Stand coupling: ⅝ inch 27 thread. Locking type connector at housing. Complete with 25 foot low capacity rubber covered cable. Shipping weight: 3 pounds.

Model 308. 40,000 Ohm Impedance.
List Price.. $24.50



"CU" CARBON MICROPHONE

Communications Type

For private aircraft, police and all types of mobile and marine applications. Frequency Response characteristics restricts pick-up to essential voice frequencies rejecting unwanted background noise. Single button type carbon microphone. Button impedance 200 Ohms.

Available in two models — the only difference being in the plug furnished.

Output level: 30 volts RMS across secondary of microphone input transformer. Double pole, single throw, press-to-talk switch connects microphone and relay control circuit (see diagram on opposite page). Complete with heavy duty "Push-in" mounting bracket. Moisture proof, flexible 3½ foot cord. Cord reinforced against strain at ends.

Microphone size: Diameter 2⅛ inches, 1½ inches thick. Net weight: 6½ ounces. Shipping weight: ¾ pound.

Model CU-1, with 3-way phone plug.
List Price.. $19.50

Model CU-2, (illustrated) with 3-way switchboard type plug.
List Price..$22.50

UNIVERSAL MICROPHONE CO.

INGLEWOOD, CALIFORNIA

HANDI-MIKES

Carbon Microphone Series

A hand microphone whose popularity has been won by trustworthy performance and rugged dependability. Well balanced all-metal construction. For call systems, small transmitters; for use wherever a close-talking microphone with clear crisp voice reproduction is required.

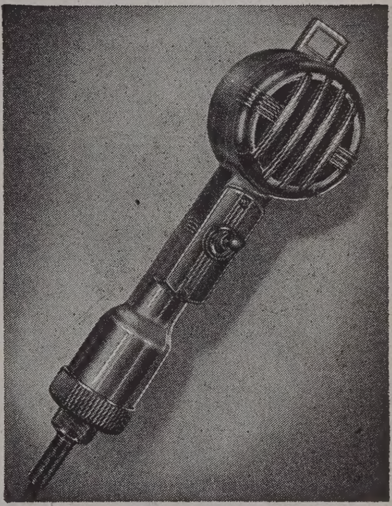
Single button carbon type with impedance of 200 Ohms.

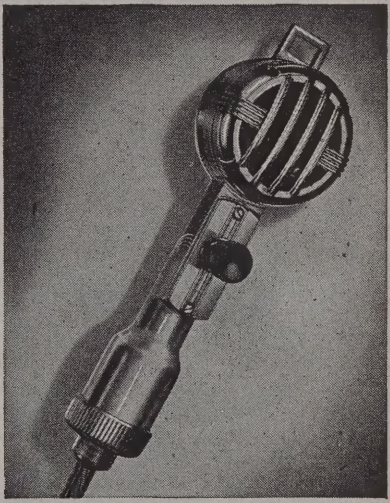
Output level: 18 db below one volt per 100 bars.

Minimum of carbon "hiss," with high signal-to-noise ratio.

Chrome plated. Complete with snap switch on standard Model 200-A. Other switch and circuit combinations available. Suffix letter on model number indicates the type of switch and circuit. (See diagram and illustrations elsewhere on this page.) 6 foot flexible cord included. Microphone size: 8 inches overall with 2¼ inch head. Shipping weight: 1¼ pounds.

Model 200-A.	200 Ohms Impedance.	List Price	$12.50
200-TA	200 Ohms Impedance.	List Price	15.00
200-TC.	200 Ohms Impedance.	List Price	16.00





HANDI-MIKES

Dynamic Microphone Series

Built with the ruggedness of a carbon type microphone, this dynamic hand microphone represents the best in proven performance. Well built 15MM voice coil; substantial suspension and construction throughout. Same general appearance and physical dimensions as carbon series listed above. Available only with "T" Switch, whose vertical toggle action makes it an ideal press-to-talk switch. Internal spring return of switch button eliminates possibility of microphone being left "on."

Response characteristics provide extremely clear speech response without over-emphasis of high frequencies. Available in two types of circuits and various impedances listed below.

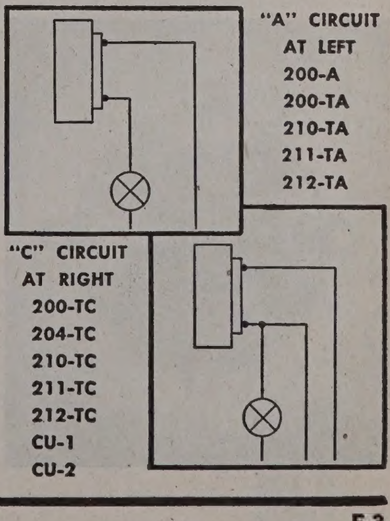
Frequency Response: 500-7500 Cps.

Output level: 23 db below one volt per 100 bars. (Output level of #212 High impedance, 40,000 Ohms model—other models in proportion.)

Chrome plated. Complete with 6 foot flexible cord. Suffix letter on model number indicates the type of switch and circuit. (See diagram and illustration elsewhere on this page.) Microphone size: length overall 8 inches, diameter of head 2¼ inches. Shipping weight: 2 pounds.

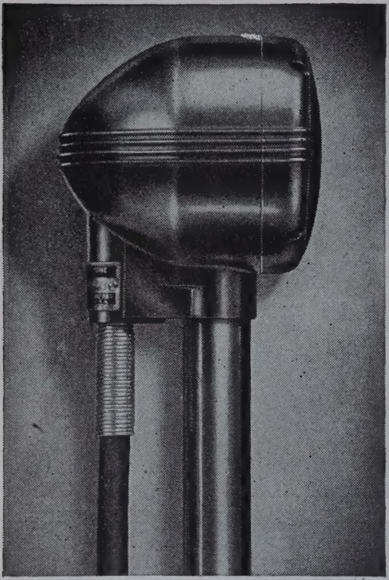
Model 204-TA.	35-50 Ohms Impedance.	List Price	$25.00
204-TC.	35-50 Ohms Impedance.	List Price	26.00
210-TA.	200 Ohms Impedance.	List Price	27.00
210-TC.	200 Ohms Impedance.	List Price	28.00
211-TA.	500 Ohms Impedance.	List Price	27.00
211-TC.	500 Ohms Impedance.	List Price	28.00
212-TA.	40,000 Ohms Impedance.	List Price	27.00
212-TC.	40,000 Ohms Impedance.	List Price	28.00

Handi-Mikes are available in various switch and circuit combinations. Diagrams at right illustrate circuit arrangements.



UNIVERSAL MICROPHONE CO.

INGLEWOOD, CALIFORNIA



"KD" DYNAMIC MICROPHONE

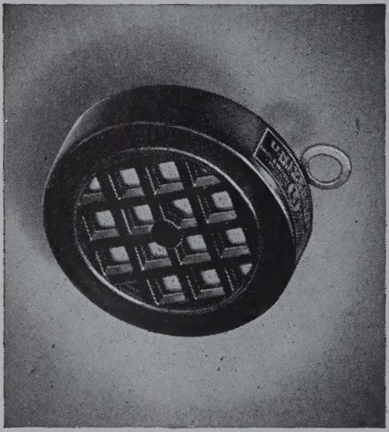
An economy microphone for home recording, amateurs, carnivals. Slightly rising frequency characteristic provides increased clarity. Unaffected by temperature and humidity.

Frequency Response: 50-7500 Cps.

Output level: 63 db below one volt per bar.

Statuary Bronze plated. Microphone size 3¼ inches in diameter, depth 2⅝ inches. Stand coupling: ⅝ inch 27 thread. Spring steel, cable strain relief at housing. Complete with 10 foot rubber covered cable. Shipping weight 1¾ pounds.

Model "KD." 40,000 Ohms impedance.
List Price.. $16.25



"W" CARBON MICROPHONE

Cartridge Type

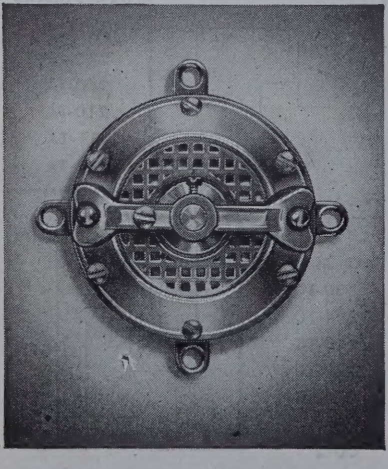
Highly sensitive, single button carbon microphone. Light in weight and compact. Ideal detectaphone. An experimenter's favorite. Clear cut response to voice frequencies. Excellent for midget transmitters.

Button Impedance: 200 Ohms.

Output level: 18 db below one volt per 100 bars.

Black plastic case with metal back. Screw terminals. Microphone size: Diameter 1⅞ inches, thickness ½ inch. Net weight 1½ ounces. Shipping weight 2½ ounces.

Model "W."
List Price.. $4.00



MODEL XX

Carbon Microphone

Small heavy duty, double button carbon microphone. A world's favorite with radio amateurs. Low background type carbon granules. Stretched dural diaphragm. Excellent voice reproduction. Frequency response: 50-5500 Cps. Output level: 40 db below one volt with 10 bar signal.

Polished Chrome plate. Diameter 2½ inches, overall thickness 1¼ inches. Shipping weight: 1 pound.

Model XX. Impedance 200 Ohms per button.
List Price.. $10.00

MODEL XI

Carbon Microphone

Identical to Model XX except is single button carbon type without cross bar. Chrome plated screen grille protects diaphragm. Shipping weight: ¾ pound.

Model X1. Impedance 200 Ohms.
List Price.. $7.50

Cardioid Microphones

"556" SUPER-CARDIOID BROADCAST DYNAMIC

Solves Difficult Problems in Broadcasting and Recording for Studio or "Remote"

Reduces reflections and reverberation effects — decreases random noise pickup by 73%. Smooth response from 40 to 10,000 cycles over wide angle at front — dead at rear (down 12 to 15 db). Super-Cardioid pattern — more unidirectional than the Cardioid. Single unit construction simplifies production; offers advantages of ruggedness and economy. Accomplished through Shure "Uniphase" principle (Patented). Floating moving coil system; double wind screened. Built-in isolation unit. Swivel head. Standard ⅝" — 27 thread; adapters to R.C.A. or W.E. thread furnished with microphone upon request at no charge. Equipped with 18" rubber covered two-conductor shielded cable. Convenient terminal connections for attaching of longer length cables. Case dimensions: 4¼" high, 3¼" wide, 3½" deep. Shipping weight 4½ lbs.

Write for Bulletin No. 172 for additional information.

MODEL	IMPEDANCE	OUTPUT LEVEL	INCLUDES INTERNAL TRANSFORMER	CODE	LIST PRICE
556A	35-50 ohms	Into 50 ohms: 62.8db below 6 Milliwatts for 10 bar signal	No	RUDOM	$75.00
556B	200-250 ohms	Into 250 ohms: 63.8db below 6 Milliwatts for 10 bar signal	Yes	RUDOP	$75.00
556C	35,000 ohms For High Impedance Input	55db below 1 volt per bar	Yes	RUDOR	$75.00

"UNIDYNE" CARDIOID DYNAMIC

Solves Feedback—Permits Higher Volume

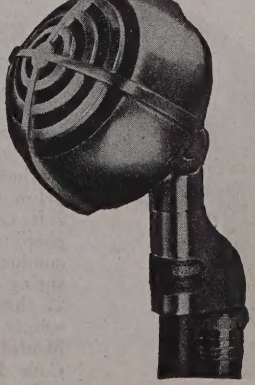
Allows closer placement of microphone and loudspeakers. Makes it easier to set up your sound system in any location. Picks up sound from greater distance in front — gives freedom to performers. Eliminates reproduction of background noise and reflected sounds at rear.

Faithful reproduction from 40 to 10,000 cycles. Rugged construction. Practically unaffected by atmospheric conditions. Has technical advantages of exclusive Shure "Uniphase" principle. (Patented) Swivel head. Built-in cable connector. Low impedance model permits use of any length cable required. ⅝" — 27" thread. Case same size as "556" series. Shipping weight 4½ lbs.

MODEL	IMPEDANCE	OUTPUT LEVEL	CABLE	INCLUDES INTERNAL TRANSFORMER	CODE	LIST PRICE
55A	35-50 OHMS	Into 50 ohms: 62.8db below 6 Milliwatts per 10 bar signal	25 ft.	No	RUDAR	$47.00
55B	200-250 OHMS	Into 250 ohms: 63.8db below 6 Milliwatts for 10 bar signal	25 ft.	Yes	RUDAT	$49.50
55C	35,000 OHMS for high Impedance Input	55db below 1 volt per bar	25 ft.	Yes	RUDAS	$49.50

"UNIPLEX" CARDIOID CRYSTAL

The Only True Cardioid Crystal Microphone



The Shure "Uniplex" is the most economical means of obtaining the advantages of true cardioid performance. High quality reproduction from 30 to 10,000 cycles over a wide angle at the front, yet practically unaffected by sound approaching from the rear. (Rear response down approximately 15 db.) Permits more volume without feedback — simplifies microphone and speaker placement — greatly improves systems using ordinary microphones. Uses exclusive Shure "Uniphase" principle. (Patented) Output level 63 db below 1 volt per bar. Specially moisture-proofed Grafoil Bimorph Crystal. Swivel head. Built-in cable connector. Standard ⅝" — 27 thread. Dia. 3⅛", depth 3⅜". Shipping weight 1½ lbs.

Model 730A. "UNIPLEX" Cardioid Crystal Microphone. Complete with 25 ft. super-shielded cable. Code: **RUPEL.** List price — **$35.50**

Dynamic and Crystal Microphones for General Use

The appearance of your microphone is important. It is always in the spotlight. A beautiful microphone tells your customers that you are using good equipment. Make the right impression. The Shure Stratoliner's projectile form — its rich, bright metallic and gray effect makes an impression on the public that you are using more expensive equipment. But beauty is not the only feature of this microphone. Careful engineering has given it response characteristics for high quality reproduction. Its ear impression matches its eye impression. The Stratoliner looks expensive and sounds expensive.

"STRATOLINER" DYNAMIC

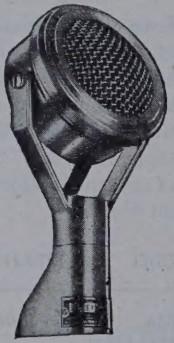
A rugged microphone with unusually smooth response. Its faithful reproduction makes it ideal for music as well as voice. Its ruggedness qualifies it for heavy duty work on Police transmitters, at Airports, in War Production Plants on paging and outdoor systems. Practically unaffected by heat or humidity. Moving conductor system. Die cast case, swivel head, built-in cable connector. Diam. 2½", length 4-7/16", Shipping weight 2¾ lbs. Stand Thread ⅝" — 27.

MODEL	IMPEDANCE	OUTPUT LEVEL	CABLE	CODE	LIST PRICE
508A	35-50 ohms	68db below 6 milliwatts for 10 bar signal	18 ft. 2 conductor shielded	RUVAM	**$28.80**
508B	200-250 ohms			RUVAP	**$28.80**
508C	High Impedance	60db below 1 volt per bar	18 ft. single conductor shielded	RUVAS	**$28.80**

"STRATOLINER" CRYSTAL

An expensive looking microphone at low cost. High output level with good response. Designed for Home Recording, Public Address, Paging Systems, Transmitters and other general purpose use. Has all the features of an expensive microphone such as swivel head, built-in cable connector and sparkling appearance. Genuine Bimorph Crystal. Case dimensions and specifications same as "508" series above. Shipping weight 2½ lbs.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	CODE	LIST PRICE
708A	7 ft.	49.7db below one volt per bar	High Impedance	RUDUM	**$19.50**
708A—18 ft.	18 ft.			RUVAT	**$20.30**

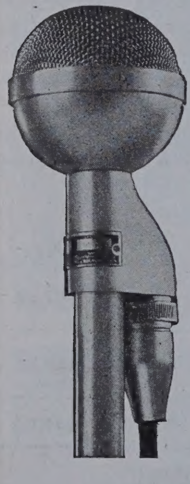


"ULTRA" 700D CRYSTAL

Highest Quality Performance

Outstanding feature is dependable performance. Shure "Ultra" wide-range response from 30 to 10,000 cycles. Output level: 58db below 1 volt per bar. Triple-moisture-sealed Grafoil Bimorph Crystal. Barometric compensation. Internal screen-protected cartridge. Small, compact swivel head — easily aimed at source of sound for best response. Built-in cable connector. Standard ⅝"— 27 thread. Diameter 2⅜". Shipping weight 2¼lbs.

Model 700D. "Ultra" Crystal Microphone. Complete with 18 ft. single-conductor shielded cable.
Code: **RUVEB.** List Price .... **$26.80.**

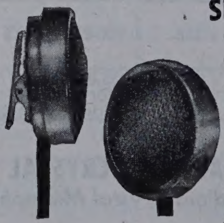


702L LABORATORY NON-DIRECTIONAL MICROPHONE

Shure Non-Directional Crystal Microphone designed for scientific and industrial sound measurement work — and for high quality sound reproduction in broadcasting, professional recording and other applications. High fidelity flat response from 30 to 10,000 cycles in the horizontal plane. Output level: 58.3 db below 1 volt per bar open circuit (61.5 db below 1 volt per bar at end of 25 ft. cable). Diam. 2¼". Built-in cable connector. Satin Chrome finish. 25 ft. shielded single-conductor cable. Shipping weight 2 lbs.

Model 702L. ....Code: **RUPAY.**
List Price ....**$47.50.**

Individual Frequency Response Curve measured in our laboratories, furnished for **$10** net.



SHURE 76B LAPEL MICROPHONE

Gives freedom to lecturers. Small, light, crystal microphone with high output level. High quality reproduction of speaker's voice. Inconspicuous. Only 1⅞" diameter; weight only 1½ oz. Gray finish. Handy lapel clip. 25 ft. shielded single-conductor cable. Shipping weight 1 lb.

Model 76B. ......Lapel Microphone.
Code: **RULOP.** List Price .... **$25.00.**

NEW 707A CRYSTAL

A good sturdy microphone at low cost. Attractive modern die cast case in Iridescent Gray finish with highly polished plating on front grille. Natural life-like reproduction. Output level 49.7 db below one volt per bar at end of 7 ft. cable. Bimorph Crystal, mechanically isolated. 7 ft. single-conductor shielded cable, with spring protector. Standard ⅝"— 27 thread. Diam. 2⅜". Shipping weight 1¼ lbs.

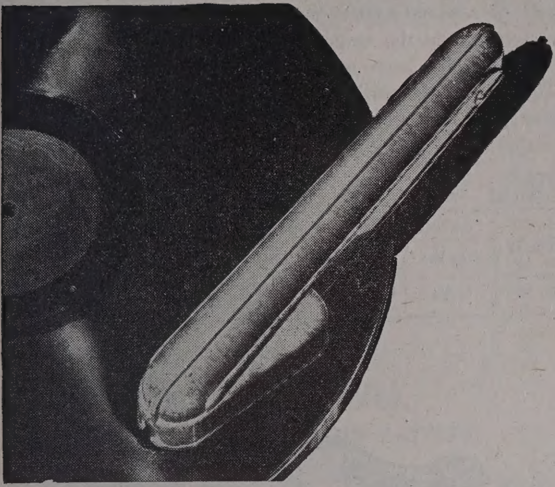
Model 707A. Crystal Microphone.
Code: **RUDOF.** List Price **$12.50.**

NEW HAND MICROPHONE

Lowest cost crystal microphone. Tenite plastic case and handle. Output level . . . 49.7 db below one volt per bar. Genuine Bimorph Crystal. Smooth response. 7 ft. single-conductor, shielded cable. Diam. 2½", height overall 6", depth 1½". Shipping weight ¾ lb.

Model 717A. Crystal Hand Microphone.
Code: **RUDUK.** List Price **$9.95.**

Crystal Pickups and Magnetic Recording Heads



Save Records with the new Hi-Lo 1-Ounce Crystal Pickup

1 Ounce needle pressure practically eliminates record wear. 1.4 volts output at 1,000 cps. (Audio Tone Record) makes possible easy replacement of heavier pickups. Permanent sapphire point eliminates bother of changing needles. Low price makes it possible to modernize a record player with a lightweight pickup at a trifle more than the cost of replacing the cartridge. Plays 10″ and 12″ records. Streamlined plastic arm in mahogany finish blends harmoniously with modern cabinets. Offset head. Set screw permits changing of needle without replacing entire cartridge. Genuine Bimorph Crystal. Playing radius 7⅛″. Overall length 8⅝″. Can be mounted in ¼″ or ½″ holes. Furnished with 14″ leads and arm rest. Shpg. wt. 9 ozs.

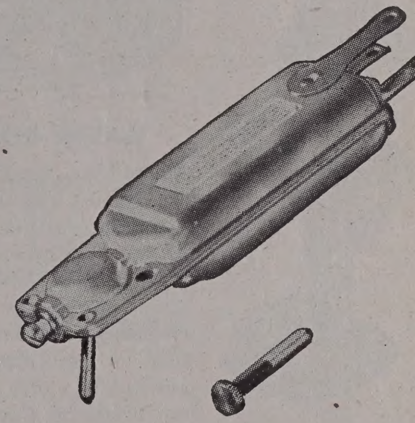
MODEL	PRESSURE	OUTPUT AT 1000 cps	WITH SAPPHIRE NEEDLE?	RESPONSE	NEEDLE SCREW	CODE	LIST PRICE
97AN	1 oz.	1.4 V	Yes	60-6000 cps	Set	RUZER	**$6.50**
97A			No		Set and thumb screw	RUZEP	**$5.50**
95A	2 oz.	3.0 V	No	60-5500 cps		RUZES	**$5.50**

Here's How to Give Your Customers Better Service on Crystal Cartridge Replacements

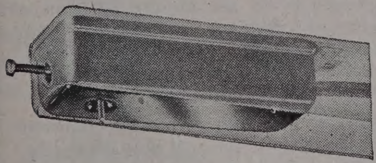
The two most important factors in replacing a cartridge (in addition to response and correct dimensions) are needle pressure and output voltage. When you replace a cartridge in a conventional arm, you give your customer better service, if you give him a new cartridge designed for a lightweight pickup. Of course, it is necessary that you give him the same or better output voltage. If you can do this, he will have a new cartridge with lower needle point stiffness. That means less record wear and reduced surface noise. This is possible only when you use Shure Hi-Lo pickup cartridges as standard for replacement. A new development gives these cartridges the highest output with the lowest needle pressure. You also give your customer improved response — the best reproduction of his records.

Shure Hi-Lo pickup cartridges will directly replace all other standard flat type cartridges. Use the following table as a handy guide:

MODEL	REPLACES SHURE	REPLACES OTHER STANDARD FLAT TYPE CARTRIDGES WITH	CODE	LIST PRICE
W40A	99-180	Pressure of 2 oz. or more output of 3 volts or less	RUZOP	**$4.00**
W41A	99-181	Pressure of 1½ oz. or more output of 2 volts or less	RUZOK	**$4.00**
W42A	99-182	Pressure of 1 oz. or more output of 1.4 volts or less	RUZOG	**$4.00**

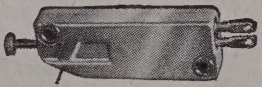


Handy Reference Table for Shure Magnetic Cutter Replacements

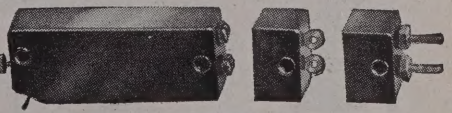


Many tens of thousands of Shure Magnetic Cutters are in use throughout the world in Home Recording Sets. These cutters operate directly from the voice coil winding of the output transformer. A stiff moving element permits recording on practically all recording materials. Furnished with 36″ flexible lead. Overall length 3⅜″. Shpg. wt. 8 oz.

MODEL	REPLACES	D C. RESIST	400 CYCLE IMPEDANCE	POWER INPUT	CODE	LIST PRICE
401B-3	96-01B3	3 ohms	7.5 ohms	.4 VA	RUWOB	**$11.50**
401B-4	96-01B4	4 ohms	10 ohms	.4 VA	RUWOC	**$11.50**
401B-8	96-01B8	8 ohms	20 ohms	.4 VA	RUWOD	**$11.50**
401B-12	96-01B12	12 ohms	30 ohms	.4 VA	RUWOF	**$11.50**
411B-3	96-11B3	3 ohms	7.5 ohms	.4 VA	RUWOG	**$11.50**
411B-4	96-11B4	4 ohms	10 ohms	.4 VA	RUWOK	**$11.50**
411D-1.7	96-11D1.7	1.7 ohms	4.2 ohms	.25 VA	RUWOL	**$11.50**
416B-2	96-16B2	2 ohms	5 ohms	.4 VA	RUWOM	**$11.50**
422D-1.7	96-22D1.7	1.7 ohms	4.2 ohms	.25 VA	RUWOP	**$11.50**
422D-3.2	96-22D3.2	3.2 ohms	8 ohms	.25 VA	RUWOR	**$11.50**
431A-1.7	96-31A1.7	1.7 ohms	4.2 ohms	.10 to .15 VA	RUWOS	**$11.50**
432A-1.7	96-32A1.7	1.7 ohms	4.2 ohms	.10 to .15 VA	RUWOT	**$11.50**
436A-3	96-36A3	3 ohms	7.5 ohms	.10 to .15 VA	RUWOX	**$11.50**



W20C



W27C

OTHER CRYSTAL PICKUP CARTRIDGES

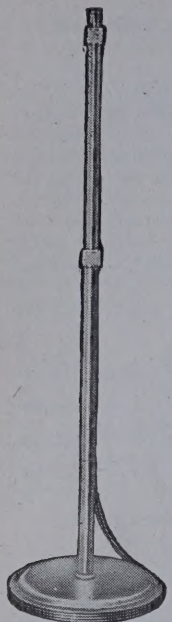
Model W20C. Metal type cartridge that fits Shure 99, 94 and 910 pickups. Has built-in "Needle-Tilt" Balanced Tracking.
Code: **RUZIM.** List Price..........**$4.00.**

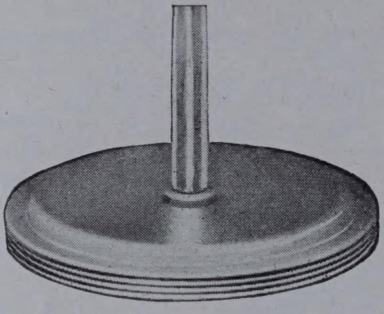
Model W27C. Bakelite type cartridge for universal replacement. Three-in-one all purpose unit. Has lug terminals, but is also supplied with screws and pins for quick, easy conversion to screw, or "plug-in" pin type as used in many record players and "coin machines". Straight needle tracking.
Code: RUZOR. List Price..........$5.00.

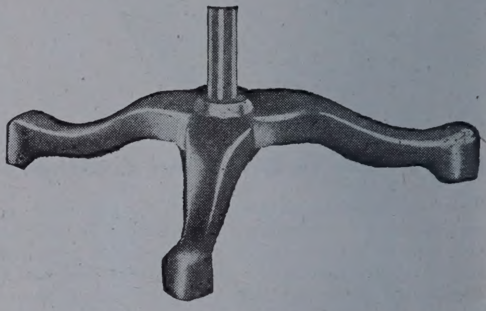
Stands and Accessories

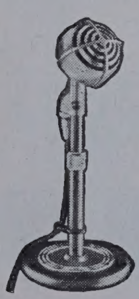
The microphone stand is the only part of a sound system operated by the performer. Don't annoy the performer and the audience with a cheaply constructed stand. Shure stands have been scientifically designed by microphone engineers. They work smoothly and quietly to give you the best performance from your microphone. Stabilized base cushioning gives 10 to 18 db reduction of noise pickup from floor.

MODEL	BASE STYLE	WEIGHT OF BASE	BASE DIAM.	HEIGHT ADJUSTMENT	SHPG. WT.	CODE	LIST PRICE
S50B	Round	8 lbs.	9½"	44" to 71"	11½ lbs.	RUSAG	**$11.00**
S54C	Round	8 lbs.	9½"	3 sections 30" to 64"	11½ lbs.	RUSAP	**$11.00**
S55A	3 Leg	10¼ lbs.	Leg spread 15½"	48" to 70"	14 lbs.	RUSAT	**$17.50**









MODERN DESK STANDS

Model S36A. Beautiful, streamlined Desk Mount with stable support at correct height. Fits Shure connector-type microphones, concealing plug in base. Adapter plate and tubing provided for other type microphones. Removable button at front for installation of ⅜" standard bushing switch or volume control. Iridescent Gray finish. Base: 2½" high. 5" wide, 7" long. Shpg. wt. 1½ lbs.

Code: **RUSEF.** List Price **$4.00.**

Model S32D. Adjustable modern Desk Stand in rich gray chrome-finish. Height adjustment from 7" to 11". ⅝"—27 thread. Base diameter 6". Shpg. wt. 3½ lbs.

Code: **RUSED.** List Price. .**$7.50.**

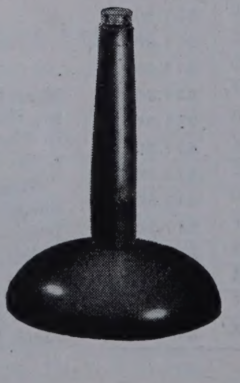
TAKE-APART STAND

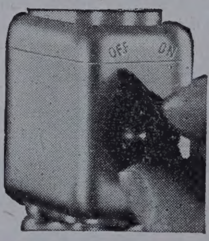
Model S34B. Handy low-cost stand for desk or hand use. One twist of handle locks it securely in base for use as a table stand, or releases handle for use in hand. Metal base, wood handle. Metal top threaded ⅝"—27. Height over all 6-11/16". Base diam. 4½". Length of handle 5⅞". Shpg. wt. 1 lb.

Code: **RUKAB.** List Price **$2.00.**

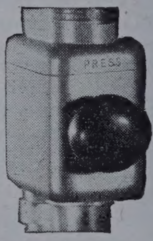
Model A41A. Microphone Handle. Threaded ⅝"—27.

Code: **RUJAD.** List Price...**$.75**

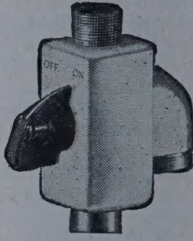




A83A



A84A



A80B

MICROPHONE "ON-OFF" SWITCHES

Many microphone applications do not require switches at the microphone. Therefore switches are not built into Shure Microphones. But, whenever a switch is needed these "On-Off" switches plug into the microphone quickly and conveniently. You can depend on them.

Model A83A. Quickly attached to any cable-connector type Shure microphone. No wiring; internal plug establishes connections. Bakelite arrow knob.

Code: **RUNIM.** List Price........................**$4.00.**

Model A84B. Momentary "On-Off" Switch. Press-to-talk Bakelite disc.

Code: **RUNID.** List Price........................**$7.50.**

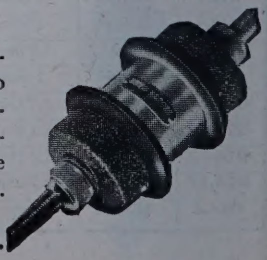
Model A80B. Threaded ⅝"—27 to fit non-connector type microphones Bakelite arrow knob.

Code: **RUNIB.** List Price........................**$2.50.**

CABLE-TYPE TRANSFORMER

Model A86A. High quality Cable-Type Transformer. Matches 35 to 50 and 200 to 250 ohm microphones to high impedance amplifier input. Compact, sturdy. Case Diam. 1⅝", length 2⅞", 7 ft. cable. Shpg. wt. 1½ lbs.

Code: **RUDEB.** List Price **$12.00.**



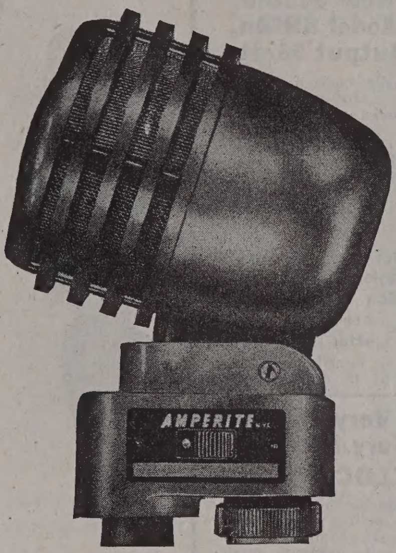
VELOCITY **AMPERITE** MICROPHONES

PREFERRED BY LEADING P. A. MEN THE WORLD OVER

P.G.

PRESSURE GRADIENT

DYNAMIC



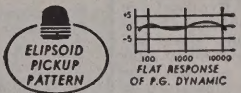
•UNI-DIRECTIONAL

NEW SUPERIOR ELIPSOID PICKUP PATTERN

•ELIMINATES FEEDBACK

TROUBLE BECAUSE IT HAS LOWEST FEED BACK POINT OF ALL DIAPHRAGM TYPE MICROPHONES

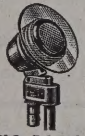
•FLAT RESPONSE. FREE FROM ANNOYING PEAKS, GIVING STUDIO QUALITY REPRODUCTION



The P.G. diaphragm follows air particle velocity where amplitude is a **GRADIENT** of the **PRESSURE.** In ordinary dynamics amplitude is restricted from following air particle velocity. The **P.G. DYNAMIC** is a radical improvement in this type of microphone. You can actually hear the difference. Case is designed according to modern acoustic principles. Rugged, not affected by temperature, altitude or humidity. **Has unusually high output.**

Model PGH —hi-imp. } **$32.00**
Model PGL —50 ohms } **List**

Output	—55 db
Freq. Resp.	40-10000 CPS
Cable Length	25 ft.
Finish	Chrome
Switch	Yes
Cable Connector	Yes
Stand Thread	⅝-27
Ship. Wt.	2½ lbs.



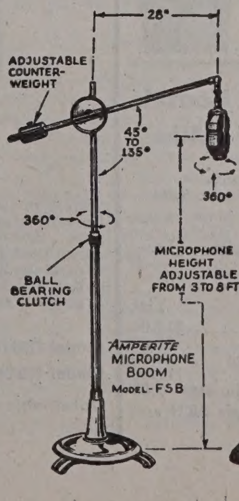
PLASTIC BAFFLE FOR P.G. DYNAMIC
Increases output of the microphone 4 db. Especially useful when performer is at distance of 12″ or more. Excellent for picking up entire stage, bands, etc. Snaps into place.
Model PG.....List $1.50

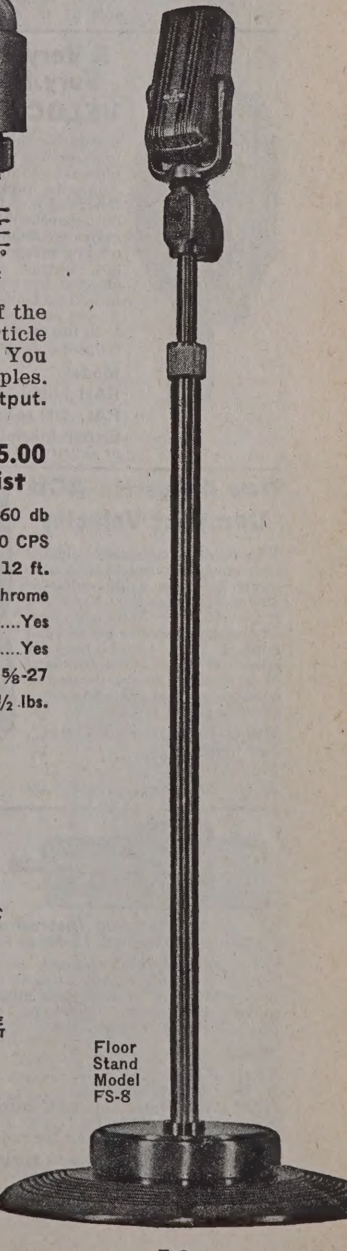
Model PGAH —hi-imp. } **$25.00**
Model PGAL —50 ohms } **List**

Output	—60 db
Freq. Resp.	70-8000 CPS
Cable Length	12 ft.
Finish	Chrome
Switch	Yes
Cable Connector	Yes
Stand Thread	⅝-27
Ship. Wt.	2½ lbs.

AMPERITE MICROPHONE STANDS

ntifically designed, Amperite stands feature:
ositive, non-sliding clutch. Will never wear out, never require adjustment. Will not "creep".
hock-absorbing rubber bottom.
microphone can be rotated without loosening clutch.
action up and down is smooth, pneumatic-like.


28"
ADJUSTABLE COUNTER-WEIGHT
45° TO 135°
360°
360°
BALL BEARING CLUTCH
MICROPHONE HEIGHT ADJUSTABLE FROM 3 TO 8 FT
AMPERITE MICROPHONE BOOM MODEL-FSB

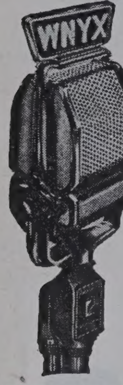

Floor Stand Model FS-8

MPERITE MICROPHONE STANDS—SPECIFICATIONS

lel	Description	Base Wt.	Base Spread	Height Range	Thread	List Gunmetal or Chrome	Ship. Wt.
M	Floor Stand	14 lb.	12″	37″-55″	½-27″	$14.00	15 lb.
5M	Studio 3-legged Floor Stand	16 lb.	17″	42″-69″	½″ pipe	26.00	25 lb.
M	Comb. desk & Banquet	6 lb.	7½″	16″-24″	⅝-27″	10.00	11 lb.
	Desk only	6 lb.	7½″	3″	⅝-27″ & ½″ P.	5.00	11 lb.
	Desk Stand	1½ lb.	5″	6″	⅝-27″	3.50	3 lb.
3	Boom	21 lb.	17″	36″-96″	½″ pipe	70.00	43 lb.

VELOCITY AMPERITE MICROPHONES

PREFERRED BY LEADING P. A. MEN THE WORLD OVER



New Studio Model SR80n, Output 56 db.

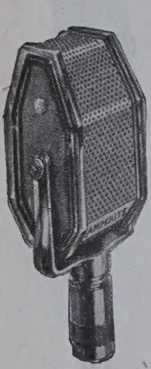
On the basis of all-around tests, Model SR80n has achieved an outstanding record. Now accepted as the best for studio, P.A., and recording. Frequency range 40 to 15,000 cps. Output, —56 db Triple shielded, fitted with switch (optional) cable connector, and 25′ of cable.

Model	List
SR-80Hn hi-imp. . .	**$80.00**
SR-80n 200 ohms*	**80.00**

Chrome or gunmetal finish.

Call Letter Plate. . $7.00

*Other impedances obtainable at no extra cost.



A Very Popular, Very Excellent VELOCITY–RAH

Answering the demand for a high quality velocity microphone at a competitive price, Amperite presents models RAH-RAL. Excellent for both speech and music. Eliminates feedback. Has a frequency range of 60 to 7500 cps. Output, —68 db. Unaffected by temperature or humidity. Unusually rugged. Triple shielded, and fitted with heavy shock absorber. Shipping weight 5 lbs.

Model

RAH hi-imp. 12′ cable

RAL 200 ohms 8′ cable

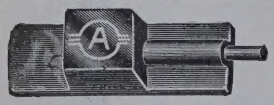
Either Model, Chrome or Gunmetal. List $22.00

New Amperite–ACH Compact Velocity

The smallest complete velocity ever made. Complete with output transformer, cable connector and switch. Has the output of a large velocity —70 db open line. Frequency response 60 to 7500 cps. ± 2 db. Can be used for speech or music. Fits standard ⅝-27 stand. Can also be used as a hand microphone—has comfortable pistol grip.

Size of Head: 1½″x2⅜″x1⅜″. Net weight 1 lb.

Model	List
ACH—25′ cable........	$25.00



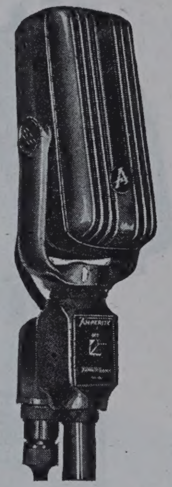
Kontak Mike

For Musical Instruments
Can Be Attached To Most Radio Sets

Gives natural reinforcement without peaks. Easily attached without tools. Will operate with either low or high-gain amplifiers. Frequency response 40 to 9000 cps. Output, —40 db. Shipping Weight 2 lbs.

Model		List
SKH	Hi-imp........................	$12.00
KTH	DeLuxe Hi-imp..	22.00
KKH	With Hand Volume Control ..	18.00
KF	Foot Pedal Only	12.00
BT	Boosting Transformer for radio sets	3.00

Low impedance available in models SKH and KTH at same price.



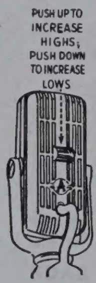
THE AMPERITE VELOCITY

Distinguished in Design and Quality

offers an exclusive feature in

THE ACOUSTIC COMPENSATOR

Models RBHk-RBMk



Considered the finest types of microphone available for P. A. work, these models are excellent for close talking and distant pickup, speech, music, or wherever else a high-quality microphone is required. Frequency range 40 to 11,000 cps. Output, —65 db. Excellent also for studio or recording. Complete with switch, cable connector and 25′ of cable.

The Acoustic Compensator permits the increase of the high frequencies by the mere flip of the finger. Simple construction. As shown in diagram, simply push the knob up to increase high frequencies, or down to increase lows. Makes microphone adjustable for close talking or distant pickup.

Models RBHk-RBMk, with acoustic compensator. Frequency range 40 to 11,000 cps. Output, —65 db. Complete with switch, cable connector and 25 of cable. Chrome or Gunmetal. **List $42.00**

Same as above, except without acoustic compensator

		Chrome or Gunmetal
Model RBHn	High impedance ...	**List $42.00**
Model RBMn	200 ohms	**List 42.00**

Models RBBHn-RBBn

For unusual feedback conditions such as footlight installations. Not to be used for close talking. Frequency range 40 to 11,000 cps. Complete with switch, cable connector and 25′ of cable.

		Chrome or Gunmetal
Model RBBHn	High impedance	**List $42.00**
Model RBBn	200 ohms	**List 42.00**

AMPERITE MICROPHONES ARE TRIPLE SHIELDED against all RF or magnetic fields, entirely eliminating hum pickup. They are acoustically designed to eliminate any possibility of cavity resonance.

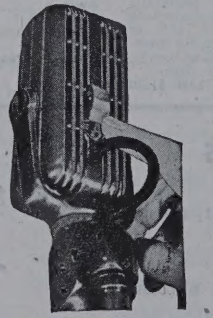
FINISHES: All microphones have the new standard gunmetal finish. Also available at no extra charge in long-lasting chrome finish.

NOTE: Special custom microphones, such as microphones with increased low or high frequencies, or special impedances, obtainable at no extra charge.

Additional CABLE LENGTHS obtainable at 8c list per foot.

New RSHk-RBSk

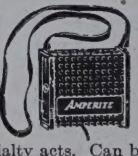
With Acoustic Compensator



Similar in appearance to RBHK. Has slightly less output and frequency range. For speech or music. ACOUSTIC COMPENSATOR permits adjustment for close or distant pickup or for various conditions encountered. Complete with switch and cable connector. Output —68 db. Frequency range 60 to 8000 cps. 12 ft. of cable.

		Chrome or gunmetal
Model RSHK	high-imp.	**List $32.00**
Model RBSK	200 ohms	**List 32.00**

Obtainable without Acoustic Compensator at same price.



Amperite–7JH Velocity Mike

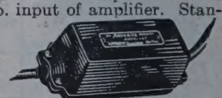
"Lapel"

The most successful "lapel" made. Size of match box. Ideal for lectures and specialty acts. Can be hidden under coat. Output constant with any position of the head. Transformer included in microphone case. Flat response 60 to 7500 cps. Output, —70db. Shipping weight 3 lbs.

Model 7J-H	Hi-imp.	**List $22.00**
Model 7J	200 ohms...........	22.00

Input Transformer (Cable Type) LGP

Enables the use of low impedance microphones and cable lengths up to 5000 ft. with amplifiers having high impedance input. Hum trouble entirely eliminated. Can be used with 25, 50, or 200-ohm microphones. Output connects directly to high imp. input of amplifier. Standard grade recommended for speech; laboratory grade for music. 2′ cable. Shipping Wt. 3 lbs.



Model			List
LGP	(Standard)	60-8000 cps........	$ 6.00
LGP	(Lab.)	.40-14,000 cps.......	10.00

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ASTATIC

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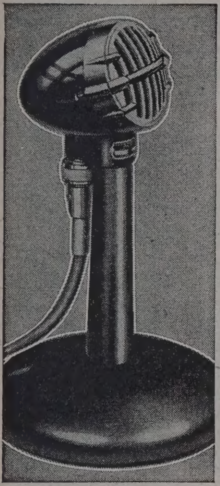
CRYSTAL MICROPHONES

TRADE MARK REGISTERED

LICENSED UNDER BRUSH DEVELOPMENT CO. PATENTS.



JT-SERIES MICROPHONES

This Astatic Microphone, popular because of its wide range of usefulness, excellent performance and low price, is used extensively for amateur, public address and home recording. JT-Series Microphones are available in both wide and voice range models and, in addition to standard equipment, are furnished complete with concentric cable connector, convenient wood handle, interlocking metal base and 25-ft. shielded cable. Wood handle may be removed and microphone used on floor stand. Pleasing bass response with uniform highs free from objectionable peaks or dips. Output level —52 db provides ample reserve for use with high gain amplifiers. Choice of all chrome or chrome and gray finish. Stand and handle gray.

JT-30-TT Wide Range, Code ASVLG, **List Price** **$15.50**

JT-40-TT Voice Range, Code ASVLD, **List Price** **15.50**

WR-SERIES MICROPHONES

The WR-Series, Multi-Unit Microphones, made in two models for varied cable lengths, are highly recommended for studio, public address and high quality recording purposes. These microphones are built with dual-diaphragm crystal cartridges in multi-unit arrangements, assuring high fidelity reproduction. Overall frequency response is exceptionally smooth up to 10,000 cycles. Due to their special interior assembly design, the WR-Series Microphones cannot be acoustically overloaded. Model WR-20 may be used on cable up to 100 ft. with negligible loss of output and Model WR-40 is more than able to handle cable twice this length. Output level —56 db. Finish, all chrome.

WR-20, Code ASVGZ....................**$29.50**

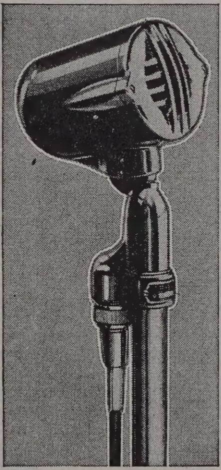
WR-40, Code ASVAL.................... **39.50**

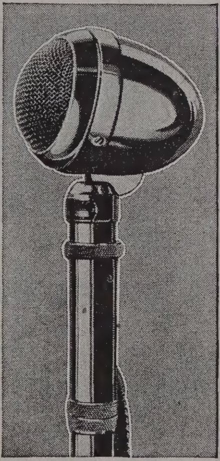
N-SERIES MICROPHONES

Because of their exceptionally smooth frequency response and many other improved characteristics, Astatic Model N-Series Crystal Microphones are especially desirable for modern public address installations. Swivel joint, tilting head permits adjustment to either semi-directional or directional position, providing a practical and effective method of acoustic feedback control. Concentric cable connector facilitates quick interchange of cables. Two models are available. Model N-30, with output level —52 db, is a high fidelity, wide range microphone, 30 to 10,000 cycles. Model N-80, voice range microphone, output level —49 db, with rising response to 3,500 cycles. All-chrome finish. Complete with 25-ft. cable and spring protector.

N-30 Wide Range, Code ASVJR, **List Price** **$17.50**

N-80 Voice Range, Code ASVJP, **List Price** **17.50**

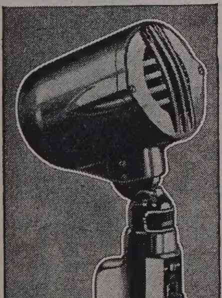




MODEL T-3 MICROPHONE

In Model T-3, Astatic offers a Crystal Microphone for practical use in almost every field of usage. Here is a microphone with an ideal frequency response, definitely established by long and continued popularity, that appeals to professionals and amateurs alike. Its use is suggested for studio set-ups, with amateur rigs, intercommunicating systems, public address installations and for high class recording purposes. Microphone head may be tilted with ease on unique swivel mounting and pickup pattern made semi- or non-directional, as desired. Output level —52 db. Frequency response substantially uniform from 30 to 10,000 cycles. Equipped with interchangeable plug and socket connector and 25-ft. cable. All chrome finish.

T-3, Code ASVCX......**List Price $25.00**



TYPE S SWITCH ADAPTOR

When so ordered, at little extra cost, a convenient on-off switch, as shown with N-Series Microphone, in accompanying illustration, may be had with Astatic Model Microphones N-30, N-80, T-3, WR-20, WR-40, D-104 and K-2. This Model "S" Switch is NOT SOLD SEPARATELY but must be ordered with microphone. Model "S" Switch shorts the microphone circuit in "off" position, and is a convenient method of cutting in and out on two-way conversations. In practical fields, using intercommunicating systems, the "S" Switch plays an important role in convenience and usefulness. With amateurs, too, this switch is becoming increasingly popular. In ordering this switch, add $2.50 to the List Price of any Astatic Microphone listed above and add the letter "S" to the model number.

MODEL D-104 MICROPHONE

This is Astatic's time-tested and proven microphone . . . the first practical crystal microphone ever developed . . . and still preferred by a great host of veteran amateurs. Model D-104, it is safe to assert, is used by more amateurs than any microphone ever made. With high output level —48 db, possesses definitely reduced feedback tendencies and does not gum up or overload when used for close-talking applications. New type yoke-driven, bridge-mounted Graphoil crystal element, improved shock-proof mounting and barometric compensation. Speech range frequency response from 500 to 4,000 cycles. Bright chrome finish. Standard equipment includes interchangeable plug and connector, spring cable protector and 7-ft. cable.

D-104, Code ASUPA....**List Price $22.50**

ASTATIC MICROPHONES AND STANDS

KNOWN THE WORLD OVER

TRADE MARK REGISTERED

LICENSED UNDER BRUSH DEVELOPMENT CO. PATENTS.

MODEL K-2 MICROPHONE

Because of its smooth, undistorted reproduction and the fact that it cannot be acoustically overloaded, Astatic Model K-2 Crystal Microphone is highly recommended. In this model, Astatic provides a small size, dual-diaphragm type crystal microphone for studio use, recording, dance bands, public address installations and general applications where quality performance is required. With dual crystal unit design, Model K-2 has twice the capacitance of the usual crystal microphone and correspondingly longer cable lengths may be used. Output level —60 db, below one volt per bar. Frequency response 30 to 10,000 cycles with rising characteristic beyond 6,000 cycles with non-directional pickup. Standard equipment includes plug and socket connector and 25-ft. cable. All chrome finish.

K-2, Code ASURX......**List Price $27.50**

DYNAMIC MICROPHONE

Model "DN" is a semi-directional, all-purpose dynamic microphone incorporating a new unitary moving coil system, and carefully proportioned acoustic circuit to highly damp the natural resonance of the moving system and provide a response characteristic substantially flat from 50 to 7,000 cycles. The "DN" design employs all features necessary for wide applicability, including Astatic's tilting-head swivel mount, permitting semi- or non-directional positions. Standard equipment includes plug and connector, spring cable protector and 25-ft. cable. Two-tone gray and chrome finish.

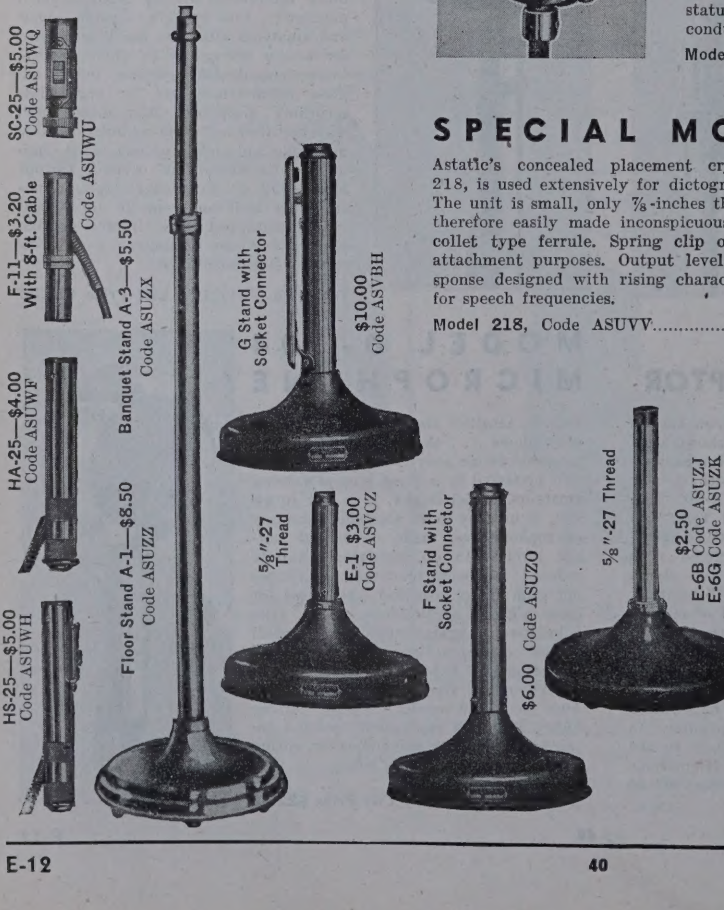
DN-50 (50 ohms),
Code ASVNJ ....**List Price $20.00**

DN-200 (200 ohms),
Code ASVNI ....**List Price 22.50**

DN-500 (500 ohms),
Code ASVNH ....**List Price 22.50**

DN-HZ (50,000 ohms to grid),
Code ASVNG ....**List Price 22.50**

ASTATIC MICROPHONE STANDS CONNECTORS AND ADAPTORS



LAPEL TYPE MODEL L-1

This very small dual-diaphragm crystal microphone was developed to meet especially difficult pickup conditions. Equipment includes lapel-type spring clip and over-shoulder cord to permit wide latitude of movement. Output level —62 db. Frequency response uniform from 30 to 10,000 cycles with rising characteristic beyond 6,000 cycles. Finish, statuary bronze. Furnished with 25-ft., small diameter, single conductor cloth covered cable.

Model L-1, Code ASUSN............................**List Price $25.00**

SPECIAL MODEL 218

Astatic's concealed placement crystal microphone, Model 218, is used extensively for dictographic and detective work. The unit is small, only ⅞-inches thick, finished in black and therefore easily made inconspicuous. Cable connects through collet type ferrule. Spring clip on back of case for easy attachment purposes. Output level —46 db. Frequency response designed with rising characteristic above 500 cycles for speech frequencies.

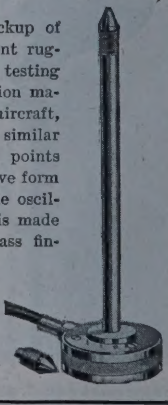
Model 218, Code ASUVV..........................**List Price $22.50**

MODEL VP VIBRATION TYPE

Astatic's inertia type pickup of simple design and inherent ruggedness, for production testing of moving and reciprocation machinery, motor cars, aircraft, water leak detection and similar applications. All contact points are of hardened steel. Wave form may be observed with the oscillograph. Model VP case is made from heavy machined brass finished in bright chrome.

Model VP,
Code ASZGK

List Price..........$25.00



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CRYSTAL PICKUPS

TRADE MARK REGISTERED

LICENSED UNDER BRUSH DEVELOPMENT CO. PATENTS.

Low Pressure CRYSTAL PICKUPS

Designed for a higher standard of phonograph performance, Astatic Low Pressure Crystal Pickups, with permanent, built-in Sapphire jewel points, have contributed immeasurably to the convenience, economy and enjoyment of electrical phonographs and radio-phonograph combinations. This rounded Sapphire stylus, gliding smoothly over the record with feather-weight one-ounce pressure, makes this pickup basically different from any crystal pickup previously available. No needles to change. No wear on records. No gadgets to get out of order. With stylus pressure of only one ounce, scarcely more than one-third the pressure necessary in conventional pickups, records, literally speaking, don't wear out but, instead, retain their newness for hundreds of plays. Surface noise and distortion due to wear are, as a result, practically eliminated. The offset angle in arm design is such that a low tracking error is combined with balanced sidewall pressure in the record groove. Stylus pressure is controlled by spring action, permitting a low value of up and down inertia not obtainable with a counterweighted arm.

Model FP- 8, Cartridge LP- 6, Code ASXIF	**List Price $16.50**
Model FP-18, Cartridge LP-21, Code ASXIE	**List Price 16.50**
Model FP-38, Cartridge LP-23, Code ASXID	**List Price 16.50**

PERMANENT SAPPHIRE STYLUS

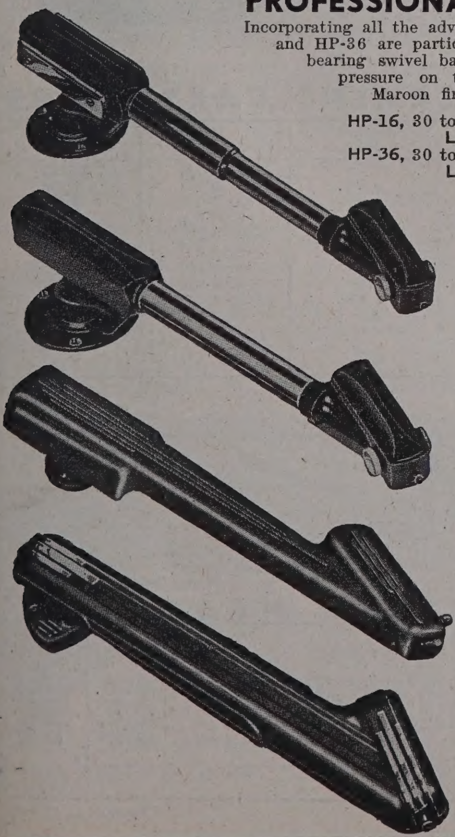
Only highest quality precisely ground, highly polished, natural Sapphires are used in Astatic Low Pressure Pickups. This jewel point is protected with a "U" shaped guard surface and internal protector spring. With a radius slightly larger than the record groove, the stylus point rides slightly up on the groove sidewalls for finer reproduction.

PROFESSIONAL MODEL LOW PRESSURE PICKUP

Incorporating all the advantages of Low Pressure design and performance, Models HP-16 and HP-36 are particularly suited for Broadcast and Recording Studio use. Ball-bearing swivel base, accurately counterbalanced arm for one-ounce needle pressure on transcriptions up to and including the 16" size. Maroon finish.

HP-16, 30 to 7,000 cycles, Code ASKIB
List Price $25.00
HP-36, 30 to 10,000 cycles, Code ASXIA
List Price $25.00

Model HP-16 and HP-36



MODEL B-16—This is Astatic's finest offset arm Crystal Pickup designed for professional use on lateral transcriptions of all sizes. Tru-Tan offset head reduces tracking error to 2.4 degrees on a 16" record. Free from mechanical resonance throughout the audio range. Response characteristic may be altered to suit conditions by modification of input circuit. Overall length, 14". Needle pressure 2¾ oz. Complete with 4-ft. single conductor shielded cable and individual arm rest. Black and Chrome finish.

Model B-16, Code ASWKG........**List Price $22.50**

MODEL B-10—Here is another deluxe Crystal Pickup, intended for those who desire the ultimate in fidelity of record reproduction. Tru-Tan offset head design. Plays both 10" and 12" records. Ball bearing swivel base. Selected Type B Cartridge. Beautifully finished in black and chrome. Overall length 12⅛". Needle pressure, 2¾ oz. Complete with 4-ft. single conductor shielded cable and individual arm rest.

Model B-10, Code ASWKH........**List Price $17.50**

MODEL AB-8—In this Crystal Pickup, Astatic offers a new high type performance combined with ultra modern styling. Special features include Spring-Axial Cushioning, Astatic's famous Type B (Bakelite encased) Cartridge with internal damping to assure permanence, Bender Crystal element with "Ebonite" waterproof coating, and last but not least, a sturdy, new die-cast arm. For use with 10" and 12" records. Overall length 10⅞". Needle pressure, 2¾ oz. Statuary Brown finish. Complete with 4-ft. single conductor shielded cable and arm rest.

Model AB-8, Code ASXFZ........**List Price $10.00**

MODEL O-7—This Astatic Pickup was designed primarily for radio-phonograph combinations and public address applications requiring quality output combined with short mounting center of only 7". Axial cushioned, die-cast, Tru-Tan arm. Now furnished with the improved M-22 Type Cartridge. Graphoil Bimorph Crystal element, Ebonite treated. Output response may be altered to suit conditions. Telephone black with bright chrome trim. Overall length, 9½". Needle Pressure, 2¾ oz. Complete with 4-ft. single conductor shielded cable and arm rest.

Model O-7, Code ASWOK........**List Price $6.50**

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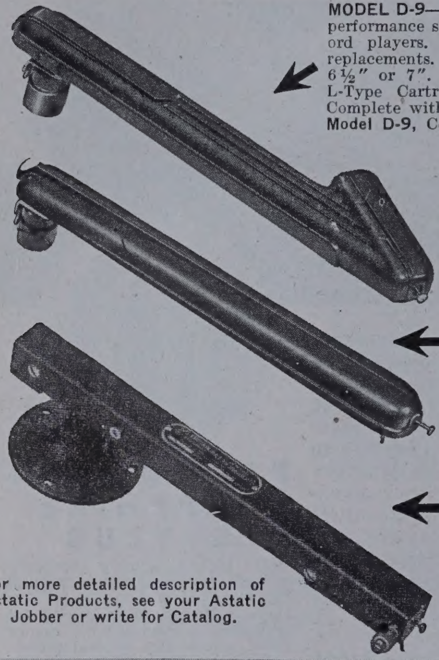
CRYSTAL PRODUCTS

TRADE MARK REGISTERED

LICENSED UNDER BRUSH DEVELOPMENT CO. PATENTS.



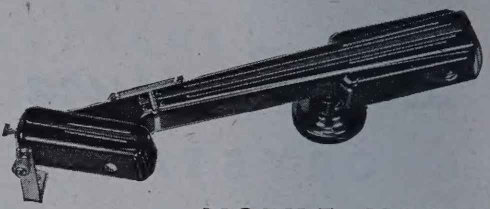
MODEL D-9—Combining low cost with high performance standards. Ideal for manual record players. Used extensively for modern replacements. Mounting center adjustable to 6½" or 7". Tru-Tan offset head. Employs L-Type Cartridge. Statuary Brown finish. Complete with 12" plain leads.
Model D-9, Code ASXFU....**List Price $4.95**

MODEL SL-8—Straight-arm pickup ideal for certain specific applications, particularly for lightly cut home recordings. Not apt to jump grooves or sweep to inside of record. Employs L-Type Cartridge. Adjustable to 7" or 8" mounting center. Statuary Brown finish. Complete with 12" plain leads.
Model SL-8, Code ASXFT....**List Price $4.95**

MODELS S-8 and S-12—This is the ORIGINAL CRYSTAL PHONOGRAPH PICKUP engineered by Astatic and still a favorite with sound men desiring a straight arm. Rigid steel channel arm with axial cushioning and ball-bearing swivel base. Use Type B Cartridge. Black wrinkle finish. Complete with 4-ft. cable and arm rest.

Model	List Price
S-8, 8" Mtg. Center, Code ASWCA....	**$10.00**
S-12, 12" Mtg. Center, Code ASWEZ	**12.50**

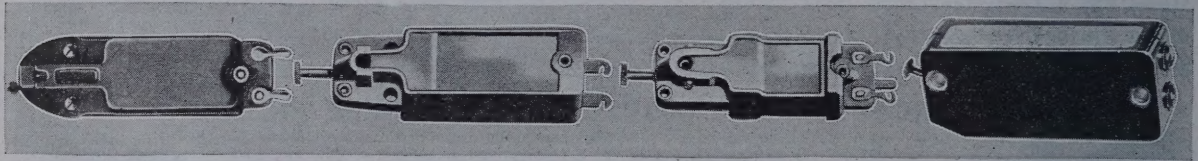
For more detailed description of Astatic Products, see your Astatic Jobber or write for Catalog.



MOBILE MODEL AB-8M PICKUP

The pickup illustrated above is designed by Astatic especially for use on sound trucks, airplanes, automobiles, trains, and other mobile units. Model AB-8M is mechanically counterbalanced so as to track on recordings even in a vertical position without jumping the groove. Hinged head may be tilted upward for quick and easy changing of needles. Characteristics almost identical to Model AB-8. Standard equipment includes locking arm rest, 2-ft. shielded cable. 7" mounting center. Standard telephone black finish.

Model	List Price
AB-8M, Code ASXEA..........	**$12.50**



Type "LP" Type "L" Type "M" Type "B"

ASTATIC CRYSTAL PICKUP REPLACEMENT CARTRIDGES

Model	Terminals	Replacement for	Recommended Needle Pressure	*Output Voltage	Code	List Price
LP-6	Lug	FP-8 and Record Changers	1 oz.	0.85	ASWUM	$8.00
LP-21	Lug	FP-18 and HP-16	1 oz.	0.85	ASWUL	8.00
LP-23	Lug	FP-38 and HP-36	1 oz.	0.65	ASWUJ	8.00
L-40	Lug	FL-48	1¼ oz.	0.60	ASWUA	4.00
L-22	Lug	AL-8	2¾ oz.	1.75	ASWUP	5.00
L-24	Lug	Record Players	2¾ oz.	2.95	ASWVY	5.00
L-25	Lug	—	2 oz.	1.25	ASWUK	5.00
L-26	Lug	D-9 — SL-8	2¾ oz.	1.4	ASWVZ	4.00
L-27	Lug	Record Players	2¾ oz.	1.40	ASWVX	5.00
M-22	Lug	O-7	2¾ oz.	2.9	ASWJM	5.00
B-2	Universal Terminals	B-10, B-16, AB-8, AB8M, S-8, S-12 and Auto. Phonos	2¾ oz.	2.5	ASWHJ	5.00
B-4	Wires 3" Long	Record Changers	2¾ oz.	2.5	ASWHH	5.00

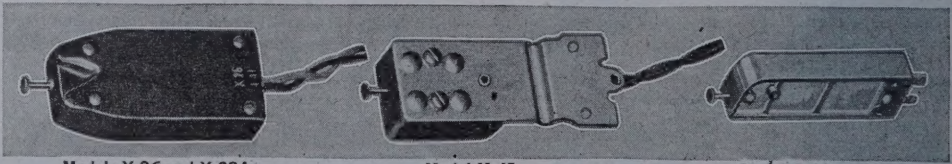
*Average at 1,000 c.p.s. Audiotone 78-1 Record

NOTE—B types, Bakelite; LP, L and M types, Metal

E4P TONE EQUALIZER

This tone equalizer is an adjustable tone compensation network to be connected between crystal pickup and amplifier, recommended for use with all crystal pickups. Rotary switch control.

Model E4P
Code ASVHD
Price, $3.00



Models X-26 and X-29A Model M-41 Model C-42

ASTATIC RECORDING HEADS

Model	Item	Driving Voltage	Useful Upper Limit	Finish	Dimensions	Net Weight	Code	List Price
X-26	Crystal	75 V.RMS	5,000 cps	Tel.-Blk.	1⅜" x ⅝" x 3¼"	5½ oz.	ASXMI	$11.50
X-29A	Crystal	120 V.RMS	6,500 cps	Tel.-Blk.	1⅜" x ⅝" x 3¼"	5½ oz.	ASXMH	11.50
C-42	Crystal	75 V.RMS	5,000 cps	Tel.-Blk.	9/16" x 13/16" x 3"	1½ oz.	ASXMG	11.50
M-41-8 (8 ohms)	Magnetic	3.0 V.RMS	7,000 cps	Tel.-Blk.	1⅜" x 11/16" x 3¾"	3½ oz.	ASXMF	11.50
M-41-500 (500 ohms)	Magnetic	22 V.RMS	7,000 cps	Tel.-Blk.	1⅜" x 11/16" x 3¾"	3½ oz.	ASXME	11.50

ELECTRO-VOICE MICROPHONES

DYNAMIC MICROPHONES

CARDAK Poly-Directional Microphone

Model 725. A versatile microphone with a **constantly variable** sound pick-up pattern. Simple control enables it to function as a true cardoid as well as a by-directional for elimination of sidewall reflected sound. In fact, the CARDAK is adjustable for **any** combination of reflected sound direction. Frequency response is substantially flat from 30-10,000 c.p.s. Average level, —52 DB (0 DB = 1 volt/dyne/cm^2). "On-off" switch is built-in. Tiltable for non-directional use. Three contact wiping connector. All impedances available (low impedance balanced to ground). 20' cable. Butler chromium finish.

Model 725, Cardak List	$55.00
Model 730, Cardak II, List	$75.00

MODEL 630

Smart, modern appearance. Frequency response: 30-9,000 c.p.s. unusually flat through lower and middle register, rising 5 DB on upper frequencies for added crispness of speech and brilliance of music. Output: —55 DB (0 DB = 1 volt/dyne/cm^2). Full equipment includes "on-off" switch, tilting head for directional or non-directional operation, 20' cable (all low impedances are balanced to ground) and cable connector.

Model 630C, Chromium Finish, List	$30.00

MODEL 640

A rugged, dependable and professional style microphone with amazing voice and music reproduction qualities. Exceptionally wide and flat frequency response, 30-12,000 c.p.s. Output: —52 DB (0 DB = 1 volt/dyne/cm^2). Tiltable for directional or non-directional operation. Cable connector is built as an integral part of the sturdy, steel reinforced cradle. 20' well shielded cable.

Model 640C, Bright Chromium Finish, List	$32.50
Model 640G, Gunmetal Finish, List	$30.00

MODEL 612

A high standard of value and quality in the low priced field. Full musical reproduction; voice is natural and crisp. Tiltable in 90 degree arc for directional or non-directional pick-up. "On-off" switch. Resistant to heat, temperature changes, salt air and rough handling. Frequency response; 40-9,000 c.p.s. Output: —56 DB (0 DB = 1 volt/dyne/cm^2). 20' well shielded cable.

Model 612C, Chromium Finish, List	$27.50

MODEL 605

Dependable quality, maximum durability, flexible operation, handsome appearance. Overall response is highly desirable for all type of sound work, recording and industrial P.A. systems. Fixed 22 degree tilt. Frequency response: 45-8,000 c.p.s. Output: —58 DB (0 DB = 1 volt/dyne/cm^2). 8' cable. Despite the low price there has been no compromise in design or quality of materials.

Model 605C, Chromium Finish, List	$20.00
For 20' cable, add to list price	$ 1.50

COMMUNICATIONS MICROPHONES

MODEL 245 Differential Microphone

Noise-cancelling Differential type carbon microphone which effectively shuts out all ambient noises and reverberation. Frequency response substantially flat from 200-4,000 c.p.s. Low harmonic distortion. Self-supporting to free both hands of the operator. Uniform response in all positions. Unaffected by temperature cycles from —40 to +185° F. Able to withstand complete immersion in water. Physically strong enough to withstand 10,000 drops. Weight, including harness, cord and plug, 1¾ ounces.

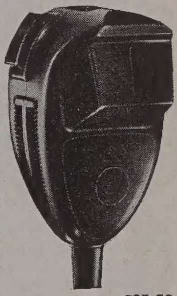
Model 245, List	$12.50

MODEL 600-D DYNAMIC MICROPHONE

Designed for police, airport, utility, mobile communications and portable P.A. installations. "Press-to-talk" switch opens microphone and closes relay simultaneously, if desired. High impact black phenolic case, built to stand requirements of rugged military use, yet weighs but 9 ounces. Will withstand temperatures from —40 to +185 degrees. Frequency response: 50-8,000 c.p.s. Curve substantially flat for highest articulation. Output: —57 DB (0 DB = 1 volt/dyne/cm^2). 8' cable. Panel mounting bracket on rear of microphone.

Model 600-D, List	$27.50
Model 600-DL (with switch lock), List	$29.00

MODEL 205-S Carbon Differential Microphone



Noise-cancelling Differential type carbon microphone. Has extremely high intelligibility even under intense noise. Ideal for aircraft, factories, railroads, police and emergency services. Weighs less than 8 ounces. Operates in all positions. High impact phenolic case. Close talking, blast proof, waterproof, shock-resistant. Fiberglas wind noise filter. Withstands temperatures from —40 to +185° F. Interchangeable with conventional carbon microphones. Response substantially flat from 100-5,000 c.p.s. High output level: —20 DB (0 DB = 1 volt/dyne/cm^2). Internal noise level below .001 volt. Press-to-talk switch opens microphone, actuates relay simultaneously, if desired. Cable length 5'. Panel mounting bracket on back.

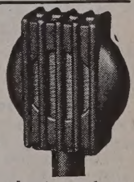
Model 205-S, List	$25.00
Model 205-SL (with switch lock), List	$26.50

MODEL 210-S Carbon Microphone

High quality single button carbon head mounted in 600-D case. Response from 200-4000 c.p.s. level —20 DB (0 DB = 1 volt/dyne/cm^2).

Model 210-S List	$17.50
Model 210-SL (with Switch Lock) List	$19.00

MODEL 75 Carbon Microphone



With an internal shock-absorber that is even more shockproof than ring mounting, yet conforms to modern design. ⅝''-27 stand coupling. Button current 5 m.a. for close talking or feedback reduction. 15 m.a. for normal work. Gunmetal finish.

Model 75, Double Button, List	$8.00
Model 75S, Single Button, List	$6.50

MODEL 50 Carbon Microphone

An efficient carbon microphone, designed to give clear reproduction and long life. Mounting for ring type stand. High output to work into low gain amplifier.

Model 50G, Gunmetal, List	$5.50
Model 50GS, Gunmetal, List	$4.00

VELOCITY MICROPHONES

MODEL V-2

The basic design embodies every desirable engineering innovation. One-third larger than the V-1. Rubber suspended ribbon assembly. Trim, modern, functional. Frequency response: 35-11,000 c.p.s., substantially flat when placed 6'' or more from sound source. Output: —64 DB (0 DB = 1 volt/dyne/cm^2), 20' cable, connectors, "on-off" switch, and locking cradle. For wide range public address, communications and recording.

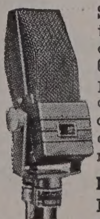
Model V-2, List	$37.50

MODEL V-3

Exclusive features. Similar in appearance to the Model V-2, and has a slightly extended frequency response. Equipped with the Vari-Z selector, the V-3 is an all impedance microphone . . . 50, 200, 500 ohms and Hi-Z, direct-to-grid. Low impedances balanced to ground. Adaptable to all pick-up.

Model V-3, List	$50.00

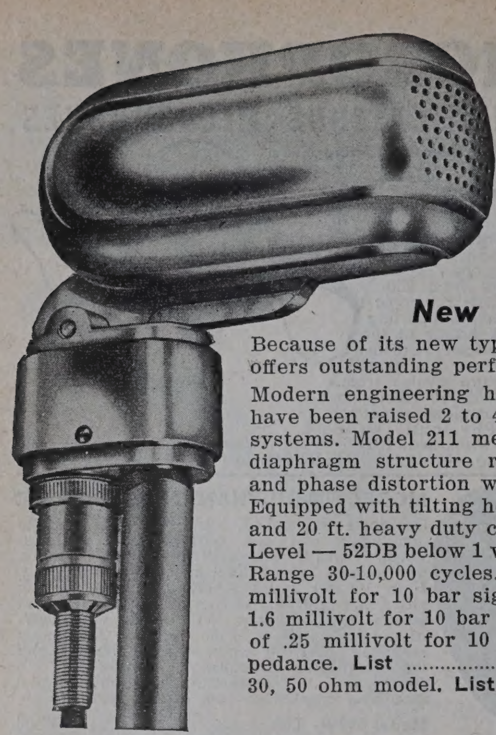
MODEL V-1



Small in size and flexible in operation. Frequency response: 40-10,000 c.p.s., substantially flat when placed 6'' or more, from sound source. Output: —65 DB (0 DB = 1 volt/dyne/cm^2). 20' cable, connectors, shock-absorber, locking cradle, and "on-off" switch. Ideal for public address, recording and communications.

Model V-1, Gunmetal Finish. List	$27.50

NOTE: All Electro-Voice Dynamic and Velocity Microphones are available in Hi-Z (Direct-to-Grid) or 50, 200 and 500 ohms. Stand connector ⅝''-27.

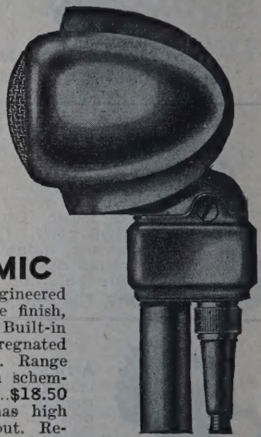


Turner *Microphones*

New 211 BROADCAST TYPE DYNAMIC

Because of its new type magnet structure and acoustic network, Turner 211 Dynamic offers outstanding performance characteristics.

Modern engineering has extended the high frequency range, and the extreme lows have been raised 2 to 4 decibels to compensate for over-all deficiencies in loud speaker systems. Model 211 meets the requirements of extended range set up by FM. Unique diaphragm structure results in extremely low harmonic and phase distortion without sacrificing high output level. Equipped with tilting head, balanced line output connection and 20 ft. heavy duty cable. Finished in rich satin chrome. Level — 52DB below 1 volt per bar for hi-impedance models. Range 30-10,000 cycles. 500 ohm model has output of 2.5 millivolt for 10 bar signal. 200 ohm model has output of 1.6 millivolt for 10 bar signal. 30-50 ohm model has output of .25 millivolt for 10 bar signal. 200, 500 ohm or hi-impedance. **List** $45.00
30, 50 ohm model. **List**........................ 42.50



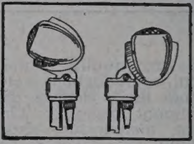
TESTED

Each and every Turner Microphone is given an individual sound pressure test over the entire audio band, before leaving the factory—your assurance of complete satisfaction.

. . . Tops in Performance . . .

22X CRYSTAL — 22D DYNAMIC

22X Crystal gives clear reproduction. Smartly engineered design cuts feedback to minimum. Full satin chrome finish, 90° tilting head and removable 7 ft. cable set. Built-in wind-gag permits outdoor operation. Crystal impregnated against moisture. Automatic barometric compensator. Range 30-7,000 cycles. High level —52DB. Complete with schematics and 7 ft cable set. **List**........................**$18.50**
22D Dynamic has same appearance as 22X but has high level dynamic cartridge. Dependable indoors and out. Reproduces smoothly at all frequencies. Range 40-8,000 cycles. Output —54DB. Complete with tilting head, 7 ft. removable cable set, and schematics. 200 or 500 ohms or hi-impedance. **List** **$23.50**
30-50 ohm. **List** **21.50**



TILTING HEADS

Models 22X, 22D, 211, 101A, B and C, 33X, 33D and 34X are all equipped with 90° tilting heads permitting semi or non-directional operation.

No. 101 CARDIOID

Where the going is tough and acoustic conditions practically impossible, the New Turner Cardioid will do the job. Two-element generator produces true cardioid characteristics, offering the best features of both the dynamic and velocity.
No. 101 is extremely sensitive in front, and completely dead in rear. Through the use of the two elements, NO SACRIFICE of frequency response is necessary. For studio, P.A. and recording.
All models have tilting heads, balanced line output connection and 20 ft. of heavy duty cable. Brushed chrome finish.

Standard Model 101A

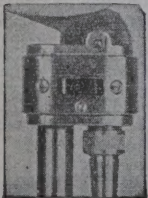
Level —59DB below 1 volt per bar for hi-impedance models. Range 30-9,000 cycles. Front to back ratio; 24 DB at 1,000 cycles. 500 ohm models—output 1.6 millivolt per 10 bar signal. 200-250 ohm model—output 1 millivolt per 10 bar signal. 30-50 ohm model—output .16 millivolt per 10 bar signal. **101A**—30, 50, 200, 500 ohms or high impedance. **List Price** **$60.00**

De Luxe Model 101B

Same as 101A but with 3-position switch to allow different pickup patterns. **List Price**........................**$70.00**

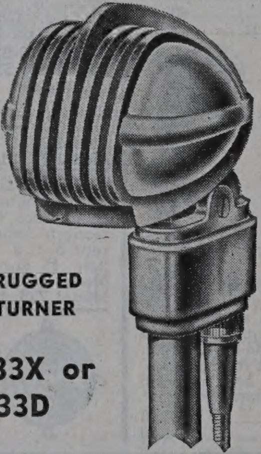
Broadcast Model 101C

Same as 101B with range extended to 10,000 cycles and not furnished in hi-impedance. All other impedances available. **List Price**........................**$75.00**



SWITCH EQUIPMENT

Models 22X, 22D, 33X, 33D and 34X are available with SWITCH illustrated. Permits finger-tip control of microphone. Switch completes circuit quietly. For S Models of 22, 33, or 34 **ADD $2.00 to List.**



RUGGED TURNER

33X or 33D

33X Crystal—Satin chrome finished, with high capacity crystal to permit extra long lines. Response 30-10,000 cycles free from peaks. Output —52DB. Tilting head. Ideal for amateur, recording, or P.A. work. With 20 ft. cable set and diagrams. **List Price** **$22.50**
33D Dynamic — Same appearance as 33X with balanced line cable on low impedance units to eliminate noise pickup. 200, 500 or hi-impedance complete with 20 ft. cable set and diagrams. **List Price** **$25.00**
50 ohm model, **List**........ **23.50**

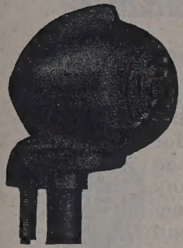
34X

SEMI-DIRECTIONAL

Ideal for use where feedback conditions are bad. Crystal is moisture proof. This mike has automatic barometric compensator, and is blast and mechanical shock-proofed. 50 ft. lines may be used. Equipped with 90° tilting head. Range 30-10,000 cycles. Level —52DB. With diagrams and 20 ft. removable cable set. Chrome type finish. **List Price**........................**$27.50**

CRYSTAL MICROPHONES LICENSED UNDER PATENTS OF THE BRUSH DEVELOPMENT CO.

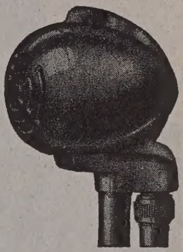
Turner Challenger



OUTSTANDING PERFORMANCE AT LOW COST

Where the utmost in performance, quality and appearance must be had at lowest cost, use these Turner Challenger models for exceptionally fine results.

Crystal models are complete with shock-proof cartridges, barometric valves, moisture-sealed crystals and wind-gags to prevent blasting. Dynamic models give equally clear-cut results for both voice and music. Unusually rugged and dependable. You can rely on these Challenger Dynamics—they're fully Turner Guaranteed!



BX Crystal

Ideal for recording, P.A. and amateur work. Bronze enamel finish. Level —55DB. Range 50-6,000 cycles. Complete with 7 ft. cable.

List Price **$9.95**

BD Dynamic

Same appearance as BX. Works equally well indoors or out. Built-in transformer is free from hum pickup. Level —52DB. Range 50-5,000 cycles. 200-250 ohms, 500 ohms or hi-impedance.

List Price **$14.50**

CX Crystal

Chrome type finish with 7 ft. removable cable set using Amphenol connectors. Level —55DB. Range 50-7,000 cycles. A Real Microphone value. **List**...... **$15.00**

CD Dynamic

Same style and finish as CX, with 7 ft. removable cable set. Level —52DB. Range 50-7,000 cycles. In 200-250 ohms, 500 ohms or hi-impedance. **List Price**.... **$18.00**

CRYSTAL MICROPHONES LICENSED UNDER PATENTS OF THE BRUSH DEVELOPMENT CO.

Famous TURNER *Dynamics*

U9-S DYNAMIC

Fills 4 Impedance Needs . . .

Same professional design and appearance as 99 and 999. Whatever impedance you need, 50 ohms, 200 or 500 ohm or hi-impedance, a twist of the switch illustrated on U9-S fills your requirements. Adjustable to semi- or non-directional operation. Removable 20 ft. cable set. Level —52DB at hi-impedance. Response is free from peaks and holes from 40 to 9,000 cycles. Handle the toughest job with U9-S. Packed with 20 ft. cable set and diagrams.

List Price **$37.50**

99 and 999

Sure-Fire Performance

Model 99 Dynamic is the most rugged microphone in the entire Turner line. Withstands climate and temperature changes. Adjustable saddle. Fits any standard stand. Semi or non-directional operation. Model 99 won't blast from close speaking. Broadcast studios, large city police departments and internationally famous manufacturers specify Turner 99 for crisp, clear results. Finished in fine gunmetal. Range 40-9,000 cycles. Level —52DB. Complete with 20 ft. cable set and diagrams. 200 or 500 ohms or hi-impedance.

List Price **$32.50**

30 or 50 ohms. **List Price**............... **29.50**

999 Balanced Line Dynamic

Same appearance as 99. Voice coil and transformer leads insulated from ground and microphone case. Gives smooth, dependable, professional performance. Complete with dignified gunmetal finish, 3-pin polarized locking connector and 20 ft. balanced line low-capacity cable. Range 40-9,000 cycles. Level —52DB.

200, 500 ohms or hi-impedance. **List Price**........................... **$35.00**

30 or 50 ohms. **List Price**.. **32.50**

TURNER GUARANTEE

Turner microphones are guaranteed against defective workmanship and materials for ONE YEAR, providing that instructions are fully complied with, and that units are not opened or tampered with in any way.

THE
TURNER
COMPANY

Cedar Rapids, Iowa, U. S. A.

Pioneers in the Communications Field

Turner "Han-D"

CRYSTAL or DYNAMIC

Does the Job of Several Mikes

Here's a vari-purpose mike you'll want for it fills the job of two or more units. It fits the hand snugly, has suspension hook for hanging mike applications, stage work and call systems; it can be mounted on any standard floor or desk stand. Especially engineered for maximum voice response and smooth, natural response to music pickups. Chrome type finish.

Stand not included

Positive contact slide switch on both crystal and dynamic models permits off-on operation.

9X Crystal—Will withstand a lot of abuse. Level —48DB. Range 60-7,000 cycles. **List**......................$22.50

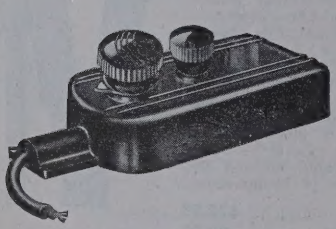
9D Dynamic—Particularly recommended for use under bad climate conditions, intense heat and rough handling. Level —50DB. Response 60-7,000 cycles. With 7 ft. removable cable set. 200-250 ohm, 500 ohm or hi-impedance. **List**..............................$25.00

30-50 ohms. **List** 23.50

Write for . . . Complete Turner Microphone Catalog
THE TURNER COMPANY
Cedar Rapids, Iowa

Magnetic Pickup for Your Musical Instruments

Model MM



Turner MM Microphone gives you immense volume from any stringed instrument without feedback. The unit has a novel clamp for fastening to violin, banjo, etc. — without use of tools or adhesives. Installed in an instant. Has continuously variable volume control built in. High impedance — works directly to the grid. Withstands rough handling and severe use. Finished in rich brown enamel. Measures 3 1/8" long by 1 5/16" wide.

Model MM—Complete with 20 ft. cable. **List Price** $16.50

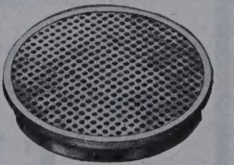
Without Volume Control. **List Price**.... 14.50

L40 LAPEL MIKE

or Concealed Microphone

Alligator clip secures the L40 to the clothing and prevents twisting on the lapel. Light and comfortable to wear. Built especially to give crisp clear reproduction of speech, and minimize feedback. Chest sounds are damped out. Sounds good over the air. Level —52DB. Use on lapel or concealed as you wish. Chrome type finish.

Model L40—With 20 ft. cable black cloth covered. **List Price** $25.00

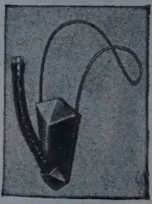


Hearing Aid Mike 7

Small crystal microphones for compact hearing aids. Lightweight, high level with unusual response for voice pickup. Send for details. **List Price** $8.00

TURNER "THIRD HAND"

Holds the microphone for you



Goose Neck Adjusts Mike to Any Position

Slips over your head in a jiffy, and holds the mike close to your mouth, where you get excellent volume without feedback. As natural to wear as a necktie, and lets you use both hands elsewhere. Stays out of your line of vision. Talk close without craning your neck; cuts down background noises.

Can be used with long line, as traveling microphone. Makes driving safer. Ideal for window demonstrators. Has 5/8"-27 mike thread. Recommended for use with Turner microphones, as they will not blast from close speaking.

Can be furnished with mike switch when ordered with Turner Microphone.

Model 3H—List Price...........................$5.00

With switch, add, **List** 1.00

CRYSTAL MICROPHONES LICENSED UNDER PATENTS OF THE BRUSH DEVELOPMENT CO.

American MICROPHONES

Licensed under Pats. of The Brush Develop. Co. and Licensed by Electrical Research Prods, Inc., under U. S. Pat. of A. T. & T. Co., and Western Elec. Co., Inc.

VR2 DYNAMIC MICROPHONE

A Microphone with a NEW IDEA and a NEW USEFULNESS

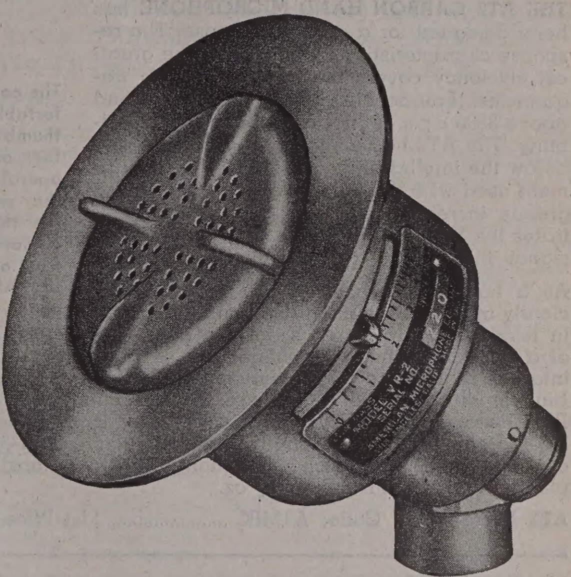
For the first time, the many desirable characteristics found only in several different types of microphones have been combined in a single unit. The VR2 has an easily accessible external adjustment of the most important acoustical reactors in the dynamic microphone. A smooth change from a communication-type response, with a cutoff below 500 c. p. s., through a flat response to an augmented bass, attained by a simple, positive adjustment.

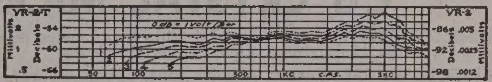
The response adjustment on the VR2 has a very broad effect and does not introduce narrow peaks. It is different from anything previously introduced.

Complete with 12½' cable and plug at microphone providing balanced line. Dull chrome finish. Net wt. less cable, 15 ozs. Hgt. 4". Greatest diameter 3".

VR2T Dynamic (38,000 ohms), Code: VARIT. List **$38.50**
Available on order in 200 or 500 ohms........List **$38.50**
(Complete with 12½' cable)

VR2 Dynamic (30-50 ohms), Code: VARIA........List **$35.75**
(Complete with 12½' cable)





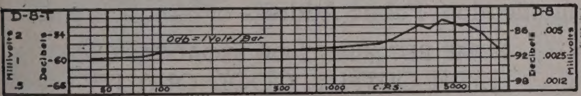
The above graph illustrates the average response characteristics for the various settings as indicated on the scale.

D8T DYNAMIC MICROPHONE

THE D8T DYNAMIC MICROPHONE has been carefully designed to have a consistent, well-balanced response. It is exceptionally rugged and assures the user of trouble-free service over a long period of time.

The D8T is particularly useful for all types of public address installations, orchestra pick-up, as well as solo work and straight announcing.

The D8T is 3¼" long, 2" in diameter, weighs only 13 ozs. A swivel mounting permits either nondirectional or semidirectional pick-up. Comes complete with 12½' cable and plug at microphone and ⅝" x 27 thread for suspension or stand mounting. Platinum Chrome Finish.



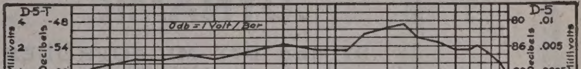
D8T Dynamic (38,000 ohms), Code DATAH....List **$27.50**
Available on order in 200 or 500 ohms..........List **$27.50**

D8 Dynamic (30-50 ohms), Code: DATAL........List **$24.75**

D5T DYNAMIC MICROPHONE

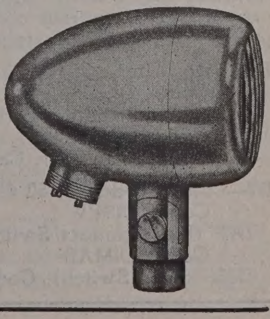
IN FOURTH YEAR PRODUCTION

THE D5T DYNAMIC MICROPHONE is well known. An excellent, diversified-purpose microphone. The dynamic is the most rugged type microphone and its life of trouble-free operation is indefinite. Being a pressure-operated instrument, the response is unaffected by either a close or distant sound source. The D5T approaches the ideal microphone for general use due to its versatility and dependability. Sensitivity: 52 db below 1 V/bar.



D5T Dynamic, 38,000 ohms, Code: DYHIM........**LIST PRICE $35.75**
Available on order in 200 or 500 ohms............**LIST PRICE $35.75**
D5 Dynamic, 30-50 ohms, Code: DYLOM............**LIST PRICE $30.25**

Moving-Coil, Permanent Magnet Dynamic ● Semidirectional ● Close or Distant Pick-up ● Excellent Frequency Response ● Freedom from Wind Noises ● High Output, Low or High Impedance ● Immune to Temperature Changes ● Minimum Feed-Back (Flat Response) ● Low-Level Mixing ● Exceptionally Rugged.



American MICROPHONES

Licensed under Pats. of The Brush Develop. Co. and Licensed by Electrical Research Prods, Inc., under U. S. Pat. of A. T. & T. Co.. and Western Elec. Co., Inc.

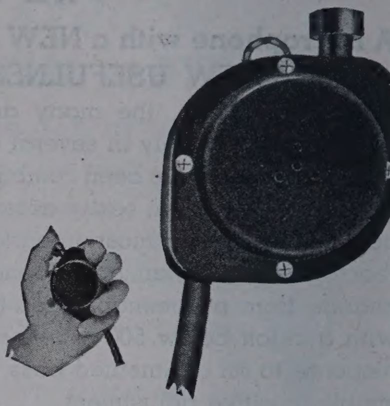
AT2 *Specialized* COMMUNICATION-TYPE MICROPHONE

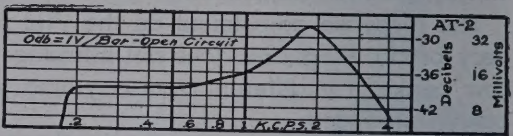
THE AT2 CARBON HAND MICROPHONE has been designed for a specific purpose. The response characteristics are such that the greatest efficiency covers the important voice frequencies. Frequencies below 200 c.p.s. and above 3500 c.p.s. do not contribute to intelligibility. The AT2 has a sharp cut off above and below the intelligibility band; therefore equipment used with the Model AT2 will operate at greatly increased efficiency. The graph illustrates the high output of the AT2. For a 10-bar signal the output is —12 db.

As a hand microphone it will pick up efficiently in any position with minimum variance in level. A positive switch, for the operation of a relay and the microphone unit, is built into the case. The beryllium-copper switch blades, with rare metal contacts, wiping action, assure long life. Recommended current 15 ma. and load impedance 100-150 ohms. Four-foot length three-conductor, cloth-covered cable supplied with each microphone. Finish: Natural black plastic. Weight with cable 7½ oz.

AT2 Microphone. Code: ATMIK ....List Price **$18.00**

The case fits the hand comfortably and the convenient thumb switch requires but four ounces of pressure to operate. Prolonged use of the switch does not tire the thumb. The case and insulating parts are molded from an indestructible plastic. All circuits are thoroughly insulated from the hand. A convenient hanger eye is provided.





C6 CRYSTAL MICROPHONE

EXTREME SENSITIVITY. New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure.

BROADER RESPONSE. Results of new construction include extension of both low and high end.

BASS END IMPROVED. Naturalness insured by improvement in low frequency response.

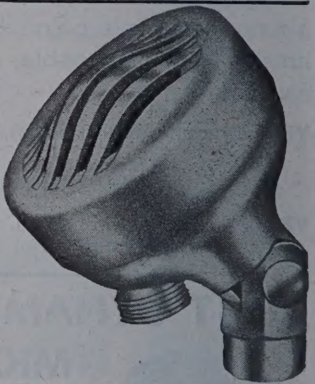
LONGER LINES. By increasing the voltage output, the cable length may be increased proportionately. In laboratory tests, regular cables 250 feet in length have been used with a net voltage sufficient to operate any standard high gain amplifier.

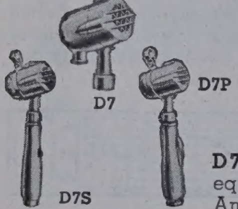
MECHANICAL NOISE REDUCED. Mechanical and stand noise is no longer a factor. The C6 method of crystal mounting reduces mechanical noises by 12 db.

LESS AMPLIFIER AND INDUCED NOISE. The high output of this microphone assures a very desirable signal-to-noise ratio.

SWIVEL HEAD. All angles for semidirectional and nondirectional pick-up are provided by the ⅝" x 27 (standard) mounting connector.

Complete with 7' cable and plug at microphone. Polished chrome finish. Net weight 8 oz. Over-all height 3". Diameter 2⅜". ⅝x27 thread provided for suspension or stand mounting.
C6 Crystal, Code CESIX ....LIST PRICE **$16.50**





THE *"Clipper"* DYNAMIC

D7 and D7T MICROPHONES equipped with 12½' R/J cable and Amphenol plug. Chrome finish. ⅝-27 connector. Over-all height, 2½". Diameter, 1½". Net weight, 8½ ozs.

APPLICATIONS: Excellent for communication purposes, airplane use, Marine safety-at-sea installations, police broadcasting, amateur communication, public address, indoor and outdoor installations.

D7T—High Imp., 38,000 or 500 or 200 Ohms;
Code: DISET ....List Price **$24.75**
D7TP (Press-contact Switch),
Code: DIMAT ....List Price **$28.50**
D7TS (Slide Switch), Code: DIAHT....List Price **$27.50**

D7—Low Impedance, 50 Ohms,
Code: DISEV ....List Price **$22.00**
D7P (Press-contact Switch),
Code: DIMAR ....List Price **$25.75**
D7S (Slide Switch), Code: DIAHL......List Price **$24.75**

RC CRYSTAL MICROPHONE

Complete with NON-BREAKABLE PLASTIC STAND and 7 foot Cable

RC Crystal Microphone may also be mounted on any stand equipped with standard ⅝" x 27 thread. . . . An excellent microphone for Communication, Public Address or Amateur Radio.

HOME RECORDING OR BROADCASTING
HIGH OUTPUT, GOOD QUALITY

Base easily removed by quarter turn, releasing bayonet lock. Cable replacements accomplished by releasing set screw in back of microphone and pulling gently on spring cable protector ....List Price **$9.95**

American MICROPHONES

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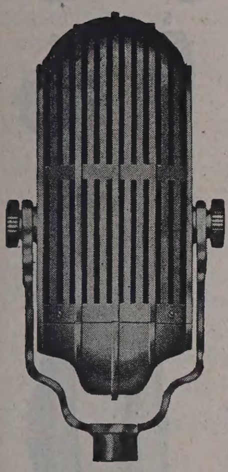
D9A *Unidirectional* MICROPHONE

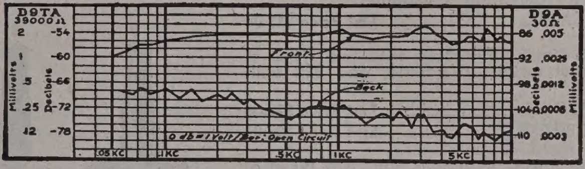


GUARANTEED to produce 30% MORE VOLUME (power) than any microphone at twice the list price. UNIDIRECTIONAL, True CARDIOID pattern pickup, frequency response good to 10,000 c. p. s.

Actual Tests are Convincing Arrange for Test with your Jobber

THE D9A DYNAMIC, a pressure-velocity combination microphone, with pick-up from front only, broad frequency response and high output, plus the usual dynamic microphone qualities of ruggedness, immunity to weather conditions, and circuit adaptability, should fill the majority of requirements.

The D9A Microphone is recommended for public address and general sound installations because its energy response field (cardioid of revolution) excludes extraneous pick-up and reduces feed-back by two-thirds. May be used for close talking due to the modified velocity section which also reduces wind noises to a minimum.



The above graph illustrates the average response characteristics for the D9A and D9AT. Voltage output levels, for 1 bar sound pressure (1 bar=1 dyne per sq. cm.) of the high and low impedance models. For 10 bar signal the output will be 20 db. higher.

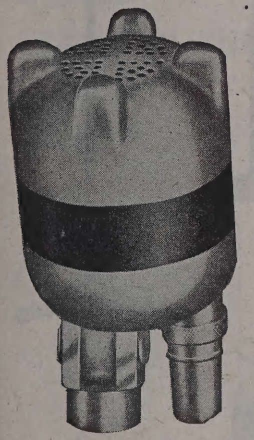
Net weight, 2½ lbs. Packed weight, 4 lbs. Height, 7"; depth, 2¼"; breadth, 2½". Standard ⅝-27 thread provided for suspension or stand mounting. Finish: Satin Chrome.

25' Shielded Rubber-Jacketed Cable Supplied with each Microphone.

D9A, Low Imp. (50 ohms).
Code: LOWEL ....List **$38.50**

D9AT, High Imp. (38,000 ohms).
Code: HIWEL ....List **$41.25**
Available on Order in 200 or
500 ohms ....List **$41.25**

D4T DYNAMIC MICROPHONE

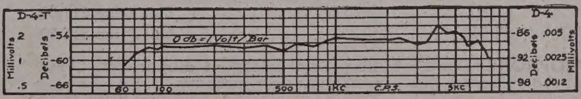


A QUALITY, LOW-PRICED, MOVING-COIL MICROPHONE. For general use where clear speech and natural music reproduction is required. This new AMERICAN microphone is a very efficient instrument, having a broad range, from 60 to 7500 c.p.s., and high output of —56 db (O db=1 v/bar). The utility value lies not only in the quality and type of response but also in mechanical features, such as light weight (approximately 10½ oz.), a full 180° vertical angular setting, and positive friction lock at the swivel.

The **D4T,** high impedance, is equipped with a single-contact, shielded plug. The 50, 200 and 500 ohm models are equipped with a two-conductor plug and have a balanced line out.

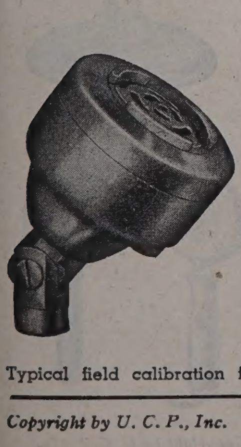
The **D4** model is of voice-coil impedance, approximately 30 ohms. Lines up to several hundred feet may be used on all models except the high impedance, where line should be restricted.

The complete assembly includes 12½ feet of shielded, rubber-covered cable and shielded plug. Finished in platinum chrome. Standard mounting, ⅝" x 27 thread.



D4T Dynamic (38,000 ohms) Code: DFORT....................**LIST PRICE $22.00**
Available on order in 200 or 500 ohms....................**LIST PRICE $22.00**
D4 Dynamic (30-50 ohms) Code: DEFOR....................**LIST PRICE $19.75**

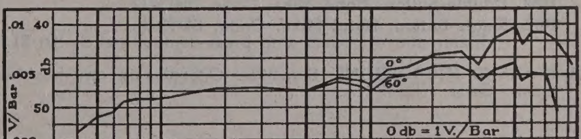
D6T DYNAMIC MICROPHONE



Ideal for general public address including stage sound-reinforcement, both permanent and portable installations. It is entirely suitable for playground and athletic field direction, police and amateur broadcasting, and recording.

Net weight, 1¾ lbs. Packed weight, 2 lbs. Height, 3¾", diameter 2½". Standard ⅝-27 thread provided for suspension or stand mounting. Finish: Polished Chrome. 12½' Shielded Rubber - Jacketed Cable supplied with each microphone.

Typical field calibration for the D6T. A choice of frequency characteristics may be had by varying the angle of the microphone to the source of sound. For nondirectional horizontal pick-up, the response is substantially flat.



D6T Dynamic (38,000 ohms) Code: DIXIT....................List **$30.25**
Available on order in 200 or 500 ohms....................List **$30.25**
D6 Dynamic (30-50 ohms) Code: DIXIE....................List **$27.50**

American MICROPHONES

1. C6 CRYSTAL MICROPHONE. The best buy in a crystal microphone. New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure. Long cables, 250 feet or longer, may be used with this microphone. The increased output voltage assures only slight proportional losses in cable lengths. Provided with plug at microphone and mounting swivel with standard 5/8"x27 thread. Chrome finish. Net weight 8 ozs. Complete with 7' cable and microphone plug. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this model.
C6 Crystal Microphone, Code: CESIX........**List Price $16.50**

2. AG CRYSTAL MICROPHONE. Preferred by crystal buyers for four years. Communication-type response. Equipped with mounting yoke, providing rear or through cable outlet. Standard 5/8" x 27 thread. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this microphone.
AG Crystal Microphone, Code: AGTAL........**List Price $22.50**

3. B9 CRYSTAL MICROPHONE. Semi-directional. Recommended for public address. Chrome finish. 5/8"x 27 thread. Complete with 8' cable and plug at microphone. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this microphone. Code: BENIN........**List Price $22.50**

4. CL2 CRYSTAL LAPEL MICROPHONE: Built especially for lapel use. Maximum sensitivity in voice range. 2½" diameter. Weight 1½ ozs. Complete with 25' cloth-covered, shielded cable and clip for attaching to clothing.
CL2 Crystal Lapel Microphone, Code: LATAL........**List Price $25.00**

5. The B9 as a hand microphone. Chrome finish. Available with two types of switches. 8' cord. B9P with press-contact switch in handle, and B9S with slide switch in handle.
B9P Crystal Hand Microphone, Code: BECON........**List Price $26.00**
B9S Crystal Hand Microphone, Code: BEHAN........**List Price $25.00**

6. The AG as a hand microphone. Chrome finish. Available with two types of switches. 8' cord. AH using slide switch, and AGP using press-contact switch.
AH Crystal Hand Microphone, Code: AHTAL........**List Price $25.00**
AGP Crystal Hand Microphone, Code: AGPAH........**List Price $26.00**

7. AG DESK STAND. Consists of upright (handle) and base. Chrome finish Code: AGESK........**List Price $2.50**

8. AG HANDLE. Upright of AG Stand. Easily attached to AG Base by half turn, bayonet lock. Chrome finish. Code: AGHAN........**List Price $1.50**
AG BASE. For use with AG Handle. Code: AGBAS........**List Price $1.00**

9. AH HANDLE. Upright of AG Stand with **slide switch.** Chrome finish. Code: SHAND........**List Price $2.75**

10. DH HANDLE. Upright of AG Stand with **press-contact switch.** Chrome finish. Code: DEPAH........**List Price $3.75**

12. SUSPENSION EYE. For suspending any microphone with standard 5/8"x27 thread. Chrome finish. Sturdy. Code: DYEYE........**List Price $1.10**

13. BS BANQUET STAND. Round base 8" in diameter. Rods 12". Extended height 24". Satin Black finish. Code: FUDAS........**List Price $8.50**

14. FH3 and FL3 FLOOR STANDS. Approved by the best sound studios. Positive, leather, friction-lock clutch. Noiseless operation. Rods 38". Extended height 6'. Three-contact, "floor grip," rubber-mounted base. FH3, studio model, net weight 15 lbs. FL3, public address model, net weight 10 lbs.
FH3 Floor Stand, Code: FUHET........**List Price $17.00**
FL3 Floor Stand, Code: FLEXR........**List Price $11.50**

15. EL4 CARBON MICROPHONE. Double button. Semi-stretched diaphragm. Good quality. Mounting yoke included. No ring or springs necessary. Code: LITEG........**List Price $8.00**

16. DD DESK STAND. Round base, 4" upright. Net weight 1¼ lbs. 5¼" base. Chrome finish. Code: DYNES........**List Price $2.75**
DS Desk Stand. Same as DD Stand except with 4¼" base. Chrome finish. Code: DINAC........**List Price $2.75**

17. SJ CARBON MICROPHONE. Single button. Sensitive. Chrome finish. Code: JOHNE........**List Price $5.50**

18. FP CARBON MICROPHONE. New single-button, sensitive, carbon microphone. Operates in any position. For use in French phones and other types of telephone and listening devices. Code: FRONE........**List Price $3.25**

19. CARBON HAND MICROPHONES WITH SLIDE SWITCH. Chrome finish.
DB2, Double-button, Hand Mike, Code DBTWO........**List Price $16.50**
SB2, Single-button, Hand Mike, Code: SUTRO........**List Price $11.00**
Either above models with press-contact switch list $1.00 extra.

20. SB HAND MICROPHONE. Sensitive. Operates in any position. Black crackle finish. Code: TILEX........**List Price $5.50**

Licensed under Patents of The Brush Development Co., and Licensed by Electrical Research Products, Inc., under United States Patents of A. T. & T. Co. and Western Electric Co., Inc., for use only in Public Address Systems.

AMERICAN MICROPHONE CO., INC.

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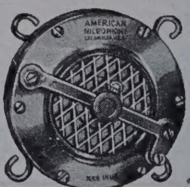

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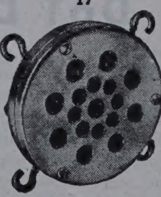

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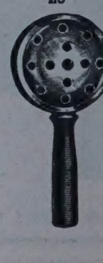

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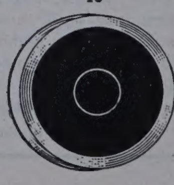


EASTERN • MICROPHONE STANDS

Due to the fact that restrictions on strategic materials were still in effect at the time this catalog went to press, EASTERN is withholding the most sensational announcement in the history of microphone stands! When Victory is ours and restrictions are lifted, EASTERN will present an exclusive new line of microphone stands which we guarantee will be the talk of the sound equipment industry. Watch for it!

Until then, we present herewith a condensed listing of our pre-war line.

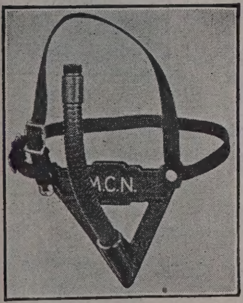
MODERNISTIC FLOOR STANDS

EF139 — Beautifully proportioned 12″ cast iron base in grey wrinkle finish combined with "Eastern" pump-action tubing in chromium. Has six felt feet. Height 37″ to 65″. ⅝″-27 thread. Net weight 16 lbs.

EF140—A heavy type of floor stand for use with large velocity microphones. Has a chrome plated tubing section of larger diameter than that used on stand above. Base in grey wrinkle finish. Height 37″ to 65″. Fittings for ⅝″-27 and ½″ pipe thread. Net weight 24 lbs.

EASTERN "NECK SUSPENSION"

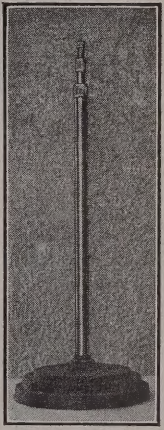
Catalog No. ES160



For switchboard and applications calling for a chest mounting, the EASTERN "THIRD HAND" leaves your other two hands free for required manipulations. Made from die cast metal and supplied with a 7″ flexible gooseneck. An integral part of the casting is a call letter plate which is suitable for station or chain affiliation (letter in your own call letters). Has a neck strap which is held by snap fasteners and a body strap which prevents shifting of microphone when leaning forward. Finished in beautiful black wrinkle.

PORTABLE STANDS

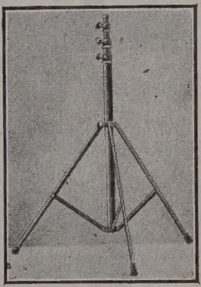
LIGHTWEIGHT STANDS FOR PACKAGE SOUND AND RECORDING SYSTEMS



EF94—A specially designed 3-section stand, ideal for portable applications where a full weight stand is specified. Has a new "BRAKE-LOCK" telescopic tubing with sections non-removable when extended. Heavily weighted modernistic base, 3″ high with 9″ diameter, **requires very little space.** Height of stand 24¼″ to 60″. Has ⅛″ pipe and ⅝″-27 thread. Base finished in Grey wrinkle and tubing in Chromium. Net weight 9 lbs.

EF92 — A full height two-section floor stand with same 9″ modernistic Grey wrinkle base as supplied with EF94 described above, and tubing in Chromium. Height 35″ to 64″. ⅝″-27 thread. Net weight 9 lbs.

FOLDING TRIPODS



EF73 — A three-section folding stand, of heavy material, made especially for microphone use. Ideal for all portable applications where light weight and minimum space are essential factors. Height 26″ to 60″. Base spread 24″. Folds to 21¾″. Thread ⅝″-27. Net weight 3¾ lbs. Thumbscrew adjustment. All Chromium finish. Has rubber bumpers.

EF74—A four-section folding stand similar to above but with fourth section added, giving adjustable height from 27″ to 78″. Folds to 22¾″. Thread ⅝″-27. Rubber bumpers. Net weight 4 lbs. Thumbscrew adjustment. All Chromium finish.

REDUCERS

Cat. No.	Mike Thread	Stand Thread	List
101	⅛″ Pipe	⅝″-27	$0.75
107	½″ Pipe	⅝″-27	1.00
145	½″ Pipe	¾″-27	1.00
109	⅝″-27	½″-27	.50
120	⅝″-27	⅛″ Pipe	.50
112	⅝″-27	½″ Pipe	1.00
132	⅝″-27	¾″-27	1.00
118	WE630A, 633A, 639A	⅝″-27	1.50

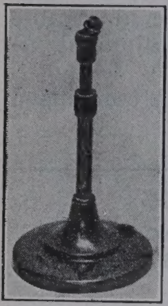
SWIVELS

103 Ball Type	⅛″ Pipe	⅝″-27	$1.00
110 Ball Type	⅝″-27	⅝″-27	1.00
117 Thumb Type	⅝″-27	⅝″-27	3.75

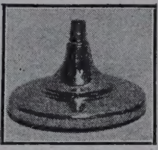
EASTERN • MICROPHONE STANDS

TABLE STANDS — 5½" BASES

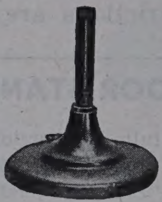
Deluxe Type — All Chromium — 3 Felt Feet in Base



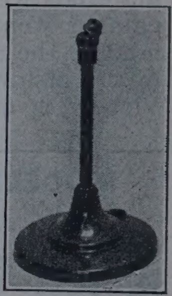
ED14D



ED130



ED149



ED5D

ED14D—Adjustable height 9"-13". Swivel has threads for ⅛" pipe and ⅝"-27.

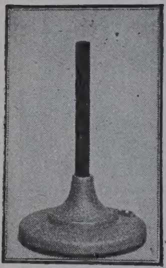
ED14—Same as above less swivel. ⅝"-27 thread as shown with ED126.

ED130—Height 4". ⅝"-27 thread.

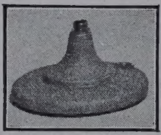
ED149—Height 8½". ⅝"-27 thread.

ED5D—Height 9¾". Swivel has threads for ⅛" pipe and ⅝"-27.

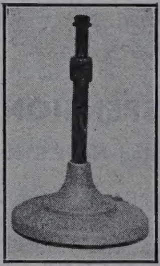
Economy Type — Grey Wrinkle Bases with Chromium Tubing 3 Felt Feet



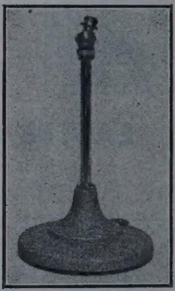
ED127



ED129



ED126



ED125

ED127—Height 8½". ⅝"-27 thread.

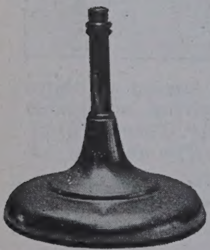
ED129—Height 3¼". ⅝"-27 thread.

ED126—Adjustable height 8"-12". ⅝"-27 thread.

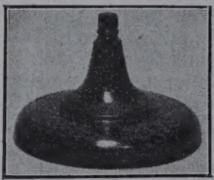
ED125—Height 9¾". Swivel has threads for ⅛" pipe and ⅝"-27.

HEAVY TABLE STANDS — 7½" BASES

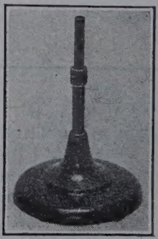
Chrominum or Wrinkle Finish—3 Felt Feet in Base



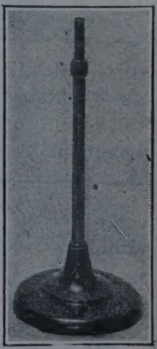
ED23R



ED131



ED21



EB4-EB41

ALL CHROMIUM FINISH

EB4—Banquet stand. Adjustable 16"-25". ⅝"-27 thread. All Chromium. Net weight 6 lbs.

ED23R—Height 8". ⅝"-27 thread. All Chromium. Net weight 5¾ lbs.

ED23P—Same as ED23R, but with ½" pipe thread. Chromium.

ED131—Height 4½". ⅝"-27 thread. Chromium finish. Net weight 5½ lbs.

ED131P—Height 4½". ½" pipe thread. Otherwise same as ED131. Chromium finish.

ED21—Short banquet stand. Height 8½"-12". ⅝"-27 thread. Chromium finish. Net weight 5¾ lbs.

ED21P—With fitting for ½" pipe thread; otherwise same as ED21.

CHROMIUM UPRIGHTS WITH WRINKLE BASES

EB41—Same as EB4 described at left, but with Grey base.

ED28—Same as ED23R described at left, but with Grey base.

ED29—Same as ED23P described at left, but with Grey base.

ED30—Same as ED21 described at left, but with Grey base.

ED31—Same as ED21P described at left, but with Grey base.

Immediately

AFTER THE WAR

NEW ***and*** **IMPROVED** ***models of the famous***

'GARRARD' RECORD CHANGERS

ALSO

'GARRARD' ***HIGH FIDELITY*** **PICK-UPS**

AND OTHER ASSOCIATED PRODUCTS WILL ONCE AGAIN BE AVAILABLE . . . WE INVITE INQUIRIES FROM POST-WAR PLANNERS.

★

'GARRARD' ***THE WORLD'S FINEST RECORD CHANGER***

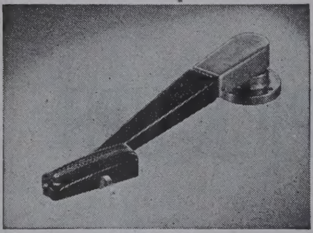
Brush CRYSTAL PRODUCTS

The Brush PL-20 crystal phonograph pickup is further adding to its already fine reputation through widespread use and acceptance in America's leading war plants and broadcasting stations. Not only does it insure the highest quality reproduction, but also conserves records. A stylus force of 30 grams (approximately 1 ounce) virtually eliminates record wear and background noise. Laboratory tests reveal the permanent sapphire stylus shows no measurable wear after 250 hours of continuous use. The wide-range frequency response is indicative of the high quality playback characteristics of the PL-20 (flat within plus or minus 2.5 db. from 50 to 6,000 cps; slight rise to 10,000 cps.)

BRUSH MODEL "PL-20" CRYSTAL PICKUP

Precision built for quality reproduction. Enough output for a conventional 2-stage amplifier. Reproduces "Constant Amplitude" recordings without equalization.

PL-20 pickup is shipped complete with No. 3761-B high impedance equalizer used for commercial "Constant Velocity" recordings. Additional No. 3761-B equalizers can be supplied at $2.50 List. For low impedance applications No. 3761-A equalizer for 50/200/500 ohm line is available on special order. **List Price $15.00**



Net Wt. 5 oz. Code Laped
Shipping Wt. 1 lb.

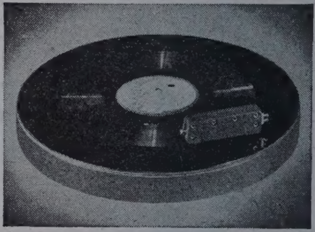
Pickup arm is designed for records up to 17¼" in dia. Readily adaptable to most phonographs. Black molded plastic arm with satin chrome metal parts.

Pickup with 3761-B equalizer. **List Price . . . $45.00**

Net Wt. 2 lbs. 4 oz. Code Payle. Shipping Wt. 8 lbs.

BRUSH MODEL "RC-20" CRYSTAL CUTTER

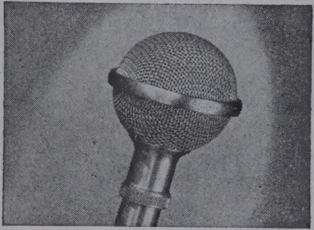
The Brush RC-20 Crystal Cutter has been designed to satisfy the demand for high quality, low cost recordings in the home, school, and studio. Due to its inherent stiffness, the RC-20 will cut lateral type records in virtually all hard or soft disc materials. Being of simple and compact design, it is readily adaptable to all types of transcription equipment. A three watt amplifier is sufficient to satisfactorily drive the RC-20 cutter. Frequency response—flat within plus or minus 3 db. from 50 to 9,000 cps.



Cuts "Constant Amplitude" without equalization, and "Constant Velocity" or other desired frequency characteristics with suitable equalization. Complete technical data sent on request.

Cutter (less stylus)
List Price $25.00

Net Wt. 4 oz. Code Reco
Shipping Wt. 2 lbs.



BRUSH MODEL "BR2S" MICROPHONE

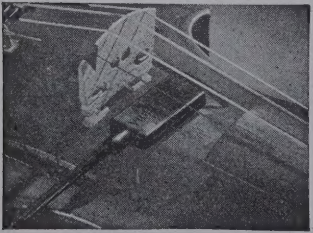
A non-directional, high quality microphone incorporating the well-known floating-crystal SOUND-CELL.*

Performance is unaffected by vibration, shock, or low frequency wind noise. Output level —65 db. (based on 1 volt per bar reference level).

Flat from 30 to 2,000 cps with gradual rise to 4 db. maximum.

Especially suitable for public address systems, monitoring, recording, amateur radio, and industrial or institutional applications.

Microphone complete with plug and socket. **List Price $29.50**
Net Wt. 7 oz. Shipping Wt. 2 lbs. Code Maple



BRUSH MODEL "VM-1" VIBROMIKE

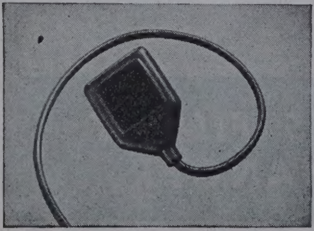
The VM-1 or "Vibromike" is a miniature CONTACT-TYPE microphone with high sensitivity and unusually wide-range frequency response (30 to 6,000 cps.).

Designed for a broad field of reproduction applications through direct contact. Adaptable to musical instruments, industrial uses—detecting mechanical vibrations.

The crystal generating element is hermetically sealed in black rubber covered case, adding to general ruggedness.

Output voltage from .05 to .1 volt or higher. Supplied with spring-type mounting clamp. Easily installed. Size of microphone ⅞" x ¾" x ⅝".

Microphone complete with mounting clamp and 25' of cable. **List Price $17.50**
Net Wt. 6 oz. Shipping Wt. 2 lbs. Code Music



BRUSH MODEL "BL-1" LAPEL MICROPHONE

A non-directional SOUND-CELL* lapel microphone for public speaking.

Especially designed to allow freedom of movement about the speaker's platform.

Can be used as either a lapel or hand-type microphone.

Has typical high quality SOUND-CELL response. The BL-1 is small (1½" x 2¼") rugged and durable, a soft rubber covering gives added protection against shock. Output level—68 db. (based on 1 volt per bar reference level).

Microphone complete with 25' of cable. **List Price $25.00**
Net Wt. 8 oz. Shipping Wt. 2 lbs. Code Maize

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Complete technical data on request

*Trade Mark Reg. U. S. Pat. Off.

PICK-UP UNITS AUDAX RECORDERS

The Standard by which Others are Judged and Valued

FOR more than a decade the design of the phonograph pickup has progressed but little, experiencing no fundamental improvement. It is a pleasure, therefore, to record here for readers of "Electronics" the results of much research on the part of Maximilian Weil of the Audak Company, leading finally to a new unit—the MICRODYNE, in which the bugaboo of moving-mass has been eliminated etc." (reprint "Electronics") . . . This bears out the contention long made by leading scientists . . . that the MOVING-INDUCTOR principle is the only one that makes possible HIGH FIDELITY—and that means MICRODYNE.

RELAYED-FLUX MICRODYNE*

THESE remarkable instruments operate on the famous "RELAYED-FLUX" principle. They are recommended to those who desire the finest of which science is capable. Because of abrasive in the material, present-day records operate best with steel-needles. This is a serious factor to be reckoned with when JEWEL-POINT operation is considered. For this reason, the "RELAYED-FLUX" MICRODYNE PRO-2 is the answer . . . While low point-pressure is desirable (provided it is not carried to extremes), VIBRATORY-MOMENTUM is the No. 1 factor in record wear. By ingenious design the VIBRATORY-MOMENTUM in the "RELAYED-FLUX" MICRODYNE has been brought down almost to the vanishing point.

FOR RECORDS UP TO 12"

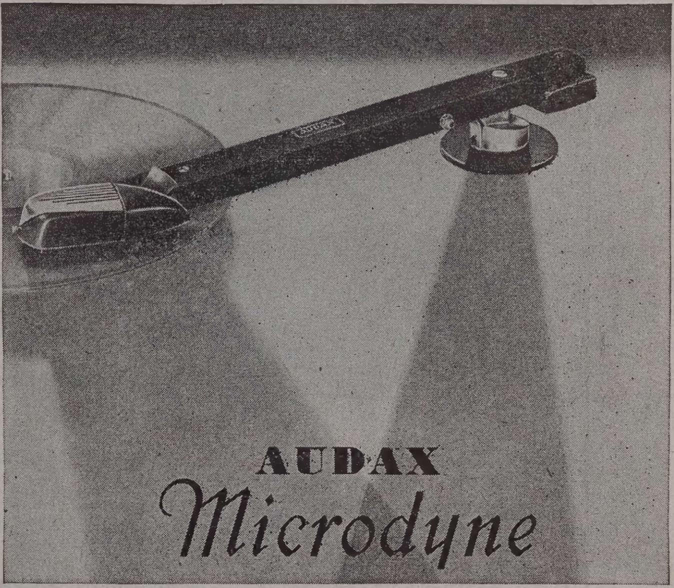
MICRODYNE D-38-H . . . FLAT within ± about 2½ db to 7500 cycles. Rising bass curve reaching about 6 db at 50 cycles. Exceptionally low Vibratory-Momentum. Point pressure about 43 grams. If desired, may be used with jewel-point. Tip-jack connectors. Black and Silver finish. Overall length 12". Impedance 200 or 500 ohms................**$49.75**

L-17 . . . FLAT within ± 3 db to approximately 6500 cycles. Rising bass curve reaching about 8db at 50 cycles. Low Vibratory-Momentum. Point-pressure about 1¾ ozs. Black and Silver finish. Overall length 11". High impedance or 200 or 500 ohms. **$27.50**

FOR RECORDS UP TO 18"

MICRODYNE D-39-H . . . FLAT within ± about 2½ db to over 7500 cycles. Rising bass curve reaching about 6 db at 50 cycles. Exceptionally low Vibratory-Momentum. Point-pressure about 43 grams. If desired, may be used with jewel-point. Tip-jack connectors. Black and Silver finish. Overall length 14½". Impedance 200 or 500 ohms. **$64.75**

L-18 . . . FLAT within ± about 3 db to about 6500 cycles. Rising bass curve reaching about 8 db at 50 cycles. Low Vibratory-Momentum. Point-Pressure about 1¾ ozs. Black and Silver finish. Overall length 13½". High impedance or 200 or 500 ohms. **$39.50**



FOR RECORDS UP TO 12"

"RELAYED-FLUX" MICRODYNE PRO-2 . . . Designed for use with either needle or jewel-point—depending on type of records used. Extremely small moving mass cuts down Vibratory-Momentum almost to the vanishing point. FLAT within ± about 2 db to over 8500 cycles. Output about —35 db. Point-pressure about 39 grams. Black and Silver finish. Overall length 12". Impedance 200 or 500 ohms. **$68.50**

FOR RECORDS UP TO 18"

"RELAYED-FLUX" MICRODYNE PRO-5 . . . Used in Radio Stations, Recording Studios and wherever super-quality performance is desired. Designed for and equipped with special Sapphire Jewel-Point. Extremely small moving mass cuts down Vibratory-Momentum almost to the vanishing point. FLAT within about ± 2 db to 10,000 cycles. Output about —35 db. Point pressure about 36 grams. Tip-pack connectors. Black and Silver finish. Overall length 14½". Impedance 200 or 500 ohms................**$108.00**

Audax Pickups are built for use with the better grade sound systems and combinations.

---

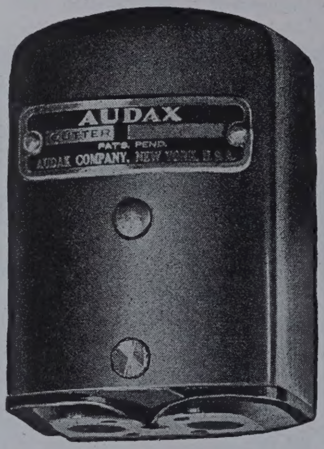
* *For working principle of "RELAYED-FLUX" see "PICKUP-FACTS."*

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

PICK-UP UNITS **AUDAX** **RECORDERS**

The Standard by which Others are Judged and Valued

NEW AUDAX
HIGH FIDELITY CUTTERS



Distortion has been the greatest retarding factor in producing high quality instantaneous recordings. These NEW AUDAX CUTTERS make possible recordings that are comparable to the best commercial discs. Yet, with all their superlative qualities, cost no more than ordinary cutters. They fill an important gap in quality Recording technique.

AUDAX CUTTER H-5 . . . Substantially FLAT to 10,000 cycles. Distortion about .5% at 1000 cycles. Fully modulates groove with input of 16 db with 96 lines. Impedances up to 500 ohms.......................................**$150.00**

AUDAX CUTTER H-3 . . . Substantially FLAT to about 8000 cycles. Distortion about 1.5% at 1000 cycles. Fully modulates groove with input of 16 db with 96 lines. Impedances up to 4000 ohms.................................**$78.00**

AUDAX CUTTER H-4 . . . Substantially FLAT to over 9000 cycles. Distortion about 1.0% at 1000 cycles. Fully modulates groove with input of 16 db with 96 lines Impedances up to 500 ohms..................................**$125.00**

AUDAX CUTTER 8-X . . . Substantially FLAT to over 5600 cycles. Distortion only 3.3% at 1000 cycles. Fully modulates groove with input of 16 db with 96 lines. Impedances to 5000 ohms.......................................**$48.50**

AUDAX CUTTERS are magnetically powered—their characteristics are not affected by temperature or atmospheric changes. ***They are readily interchangeable on most good recording machines.***

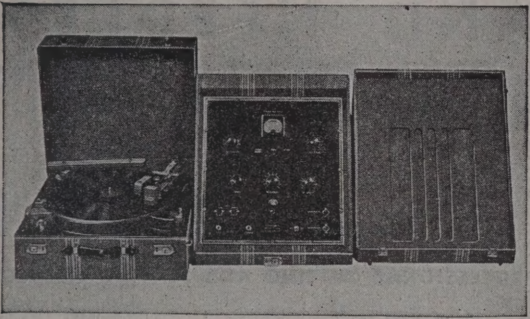
JEWEL POINTS

Jewel-Point operation is a highly critical matter. Its use should not be undertaken without advice of the AUDAK COMPANY. All AUDAX jewels are made with the greatest precision by the highest skilled craftsmen of the lapidary art. Every AUDAX Jewel is finished and highly polished to the extreme accuracy of ± .0001".

AUDAX SAPPHIRE PLAYING POINT	**$ 5.00**
AUDAX DIAMOND PLAYING POINT	**$25.00**

PORTABLE PRESTO STATIONARY
SOUND RECORDING EQUIPMENT

PRESTO MODEL "Y" RECORDER



The PRESTO model Y recorder fills the need for a 16″ transcription recording and playback equipment which is extremely portable and yet capable of producing high grade recordings. It makes continuous 15 minute, 33⅓ RPM electrical transcriptions of sufficiently good quality to be used by broadcasting stations. It also makes 78 RPM recordings on 6″, 8″, 10″ or 12″ discs and may be used to cut 11½″, 13½″ and 17¼″ master recordings from which commercial pressings are produced. In addition to recording, the model Y gives excellent reproduction of both electrical transcriptions and phonograph records and is widely used for auditioning recorded radio programs to prospective sponsors. As a public address system it will provide sound for audiences up to 1000 persons.

Among the important features of the model Y recorder are:

1. The exclusive Presto rubber-rimmed-turntable driven directly by a steel pulley on the motor shaft, a simple, foolproof drive system that eliminates vibration and holds the turntable speed absolutely constant. Maintenance is negligible. There are only two moving parts which need replacement about once a year.
2. A lever changes the turntable speed instantly without stopping the table or removing the record.
3. A lever adjusts the cutting mechanism to cut either from the outside of the disc toward the center or from the center out.
4. A cam lever lowers the cutting head gently on the record preventing accidental damage to sapphire needles.
5. A vibration damper attached to the cutting head suppresses vertical modulation in the record groove and eliminates variation in groove depth due to surface irregularities in the disc. The damper also eliminates flutter when the records are played with pickups having a resonant peak in the low frequency range.
6. The cutting arm may be unlocked from the feed mechanism to cut spiral starting and runout grooves.
7. A time scale on the cutting arm shows the starting point for each size record and elapsed recording time at both 78 and 33⅓ RPM.
8. The cutting head feed mechanism is located beneath the turntable where it is protected from dust or accidental damage. The parts of this mechanism are hand finished and fitted and its performance is equal in every way to the overhead lathe type mechanism commonly used.
9. The recording amplifier includes a two microphone mixer, high and low frequency equalizers and a change-over switch for continuous recording or re-recording. The amplifier and loudspeaker fit together to carry in a single case.

Y-2	Recorder	**$737.00**
Y-4	Recorder (low impedance inputs)	**776.00**

PRESTO MODEL "L" TRANSCRIPTION PLAYBACK

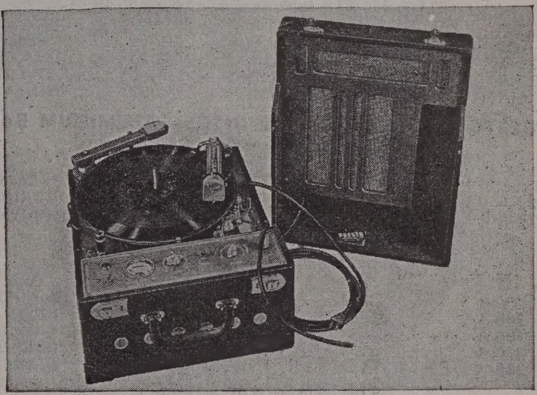
This equipment is designed for radio stations, advertising agencies and program producers, who demonstrate recorded programs at the offices of prospective clients.

Salesmen who use the Model L Playback will particularly appreciate its attractive, workmanlike appearance, its small size and light weight which make it extremely easy to carry, its simplicity which makes it possible to set up for operation within a few seconds and the remarkably clear, wide range reproduction . . . far superior to that ordinarily expected from portable equipment.

The Model L Playback was developed to meet an insistent demand among the larger broadcasting stations and agencies for "something better" in portable reproducing equipment. Those who use the Model L Playback in connection with important sales of station time and programs will consider its exceptional performance well worth its cost.

L-2—Portable transcription playback .... **List, $275.00**

PRESTO MODEL "K" RECORDER



The Presto model K is a portable sound recorder, record player and public address system complete in a single carrying case. Exceptionally light and compact, it is ideally suited to the needs of sales training and industrial schools, teachers of speech, music and dramatics, as well as professional actors and musicians who require an instrument that can be carried easily and set up for operation in a few minutes time.

The model K records 15 minutes continuously at 33⅓ RPM on one side of a 13¼″ disc. It may be connected to any home radio set to record complete radio programs. It also makes 6, 8, 10 and 12 inch records, and plays all makes of phonograph records. As a voice amplifying system it will serve audiences of about 500 persons.

Although it is the lowest priced complete Presto recorder, it contains many valuable features of the more expensive instruments such as:

1. A magnetic cutting head and pickup, the design used in the highest grade equipment.
2. A full sized, 6 tube amplifier having push-pull triodes in the power stage.
3. A high frequency equalizer for 33⅓ RPM recording and a tone control for suppressing needle scratch when commercial records are played.
4. A safety cam lever for lowering the cutting head to prevent accidental damage to sapphire needles.
5. A detachable, dynamic loudspeaker which may be operated at any desired distance from the recorder.
6. A cutter feed mechanism located beneath the turntable where it is protected from dust or accidental damage.
7. Provision for quick change from cutting outside-in to inside-out.
8. The exclusive Presto rubber-tired turntable driven directly by a pulley on the motor shaft, a drive system that eliminates rubber pulleys and belts which are subject to rapid wear. Turntable speed may be changed in 5 seconds from 78 to 33⅓ RPM by removing a brass pulley on the motor shaft.

These features, not found in any other low-priced recorder enable the user to make high quality recordings, consistently. They simplify the operation of the instrument for non-technical owners and reduce operating costs by preventing spoilage of discs and needles. As a result of its excellent performance, more Presto model K recorders are now used by schools, industrial concerns and in the home than any other recorder in a similar price range.

K-8—Complete Recorder less microphone and stand, List, **$303.00**

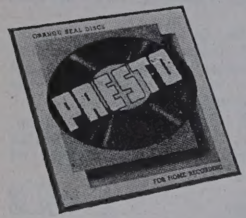
WORLD'S LARGEST MANUFACTURERS OF RECORDING EQUIPMENT AND DISCS

PORTABLE **PRESTO** STATIONARY

SOUND RECORDING EQUIPMENT

PRESTO DISCS AND NEEDLES

FOR COMMERCIAL, EDUCATIONAL AND HOME RECORDING



All Presto discs may be cut on both sides. Each disc is labeled and enclosed in an individual envelope. Playing time per side for various sizes is as follows:

6″—1 minute 10″—3.5 minutes
8″—2 minutes 12″—4.5 minutes
16″ — 15 minutes (33⅓ RPM)

PRESTO GREEN SEAL DISCS—ALUMINUM BASE

(611-A and 613-A packed in boxes of 30 discs; 616-A in boxes of 25 discs)

Type	Size	Thickness	Price	Code
611-A	11⅞″	.052″	$1.25	ELVET
613-A	13¼″	.052″	1.80	THYRT
616-A	16″	.056″	2.50	SIHEV

PRESTO OVERSIZE MASTER DISCS—ALUMINUM BASE

(All sizes packed in boxes of 20 discs)

Type	Size	Thickness	Size of Pressing	Price	Code
623-A	13½″	.066	11⅞″	$2.25	TRIOS
627-A	17¼″	.066	16″	4.00	SEVYT

PRESTO ORANGE SEAL DISCS

(Medium Aluminum Base—Overall Thickness .036″)

Type	Size	Price (Box of 10)	Code (Box of 10)
306-A	6½″	$4.50	ORSIN
308-A	8″	5.50	ORBAL
310-A	10″	8.00	ORCAR
312-A	12″	10.00	ORDEL

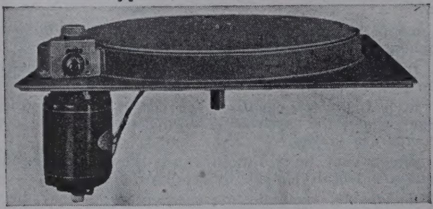
MONOGRAM DISCS

Economical composition base, but same coating as Green Seal discs. Overall thickness .050″.

Type	Size	Price (Box of 10)	Code (Box of 10)
706-A	6″	$2.00	MOBEL
708-A	8″	3.50	MONOR
710-A	10″	5.00	MOSEY
712-A	12″	7.00	MOTAX
713-A	13½″	10.00	MOXIE
716-A	16″	15.00	MOTUD

NOTE: 16″ Monogram discs are packed 25 to the box. All other sizes, 10 to the box.

Type 10-A Turntable



The 10-A table forms a part of the Presto 62-A and 63-A transcription turntables. The chassis only is offered as a replacement unit for stations having satisfactory reproducing pickups mounted on worn or inadequate turntables. The 10-A chassis can be mounted in most cabinets without disturbing the pickups or controls.

The mechanical design of the 10-A table is extremely simple. There are but 2 moving parts. The table consists of a metal platter to which a live rubber tire is fitted. This assembly is machined to perfect roundness and dynamic balance. A steel step pulley on the motor shaft drives against the rubber rim of the table. Speed is changed instantly by moving the motor carriage to engage either section of the drive pulley. Maintenance consists of oiling at 90 day intervals, occasional adjustment of the drive pressure and replacement of the tire once yearly.

The 10-A table is used and recommended by leading radio stations and transcription makers for playing both vertical and lateral recordings. **List Price**..**$228.00**

ALUMINUM DISC RE-COATING SERVICE

Size	Perfect One Side	Both Sides	Code
12″	$1.10	$1.25	CLIVE
13½″	1.40	2.00	CLAFF
16″	1.50	2.25	CLEXE

NOTE: We reserve the right to reject any discs which are damaged to such an extent that they cannot be recoated. About 20% of the recoated discs are perfect on one side only.

PROFESSIONAL CUTTING AND PLAYING NEEDLES

Cat. No.		List Price	Code
603-A	Short Dural shank sapphire cutting needle	$ 8.00	PABST
604-A	Long Dural shank sapphire cutting needle	8.00	PACEL
806-A	Resharpening sapphire cutting needle	3.00	PADIM
631-A	Disclube, pint (Record Preserver)	2.50	PAMUS

COMMERCIAL, CUTTING AND PLAYING NEEDLES

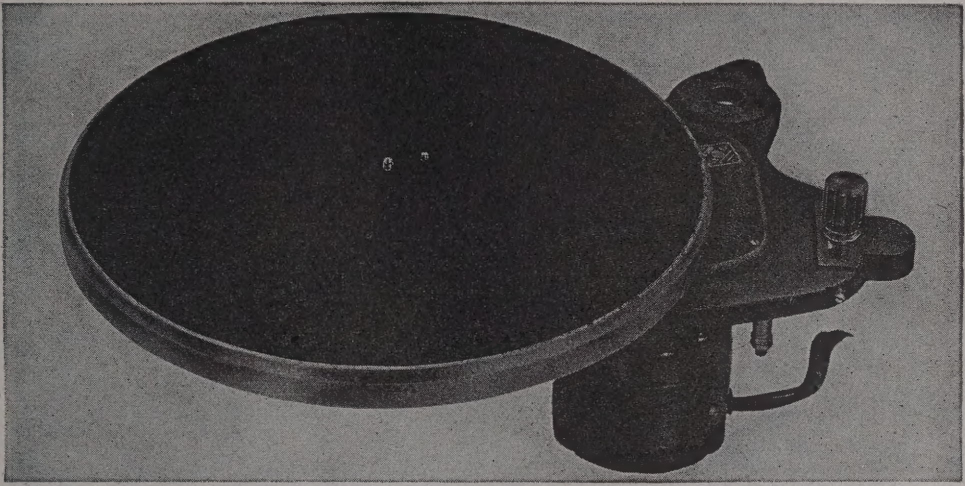
Cat. No.		List Price	Code
320-A	Short Sapphire cutting needle	$ 6.00	DABAC
321-A	Long Sapphire cutting needle	6.00	DABIT
806-B	Resharpening Sapphire Point	2.50	DACEL
330-A	Short Stellite cutting needle	2.00	DADUS
331-A	Long Stellite cutting needle	2.00	DADAR
807-A	Resharpening Stellite Point	.75	DAFFE
420-A	Sapphire playing needle	1.25	DAUVE
440-A	Red Shank Steel playing needle (pkg. of 25)	.25	DAVID
440-B	Red Shank Steel playing needle (carton, 40 pkg. of 25)	10.00	DAWES

Type 75-A Recording Turntable

The lightest 16″ dual speed recording turntable made. Recommended for all services requiring a high grade portable recorder. Widely used by broadcasting stations that record local news events for delayed broadcasts; a rugged, compact recording installation for mobile pick-up units.

Standard Equipment: The equipment consists of a 16″ cast aluminum turntable, carefully machined to dynamic balance, weighing 10 lbs. It revolves on a single ball bearing at the base of a bronze shaft well. A heavy live rubber tire on the rim of the turntable engages with a steel, step-pulley on the motor shaft to drive the table. The motor is suspended by rubber grommets in a carriage which is moved up or down by a lever to change the turntable speed. The motor drive and turntable are mounted in a cast aluminum base designed to combine extreme rigidity with light weight. The cutting mechanism consists of a fan gear, worm and pinion driven by a worm on the turntable shaft. The 1-C high fidelity cutting head, 171-A vertical damper, 21-A time scale and 150-C lateral pickup are included as standard equipment. The 75-A table is mounted in the 2A carrying case. The 75-B turntable is mounted in the 3-A cabinet.
List Price **$424.00**

REK-O-KUT Professional RECORDING EQUIPMENT



RK-D16 DUAL SPEED 16" RECORDING MOTOR ASSEMBLY

This precision-constructed instrument, unsurpassed in quality and performance is operating in many of the leading broadcasting stations and educational institutions. Ruggedly constructed and painstakingly assembled for efficient and prolonged service.

EQUIPMENT

1) Lathe turned, 25 lb. cast iron turntable, dynamically balanced, with disappearing drive pin and rubber turntable pad.
2) Turntable fitted with one inch diameter polished steel shaft, with special oil grooves for force feed lubrication when operating. Rotates on a single ball bearing at the bottom of the turntable well.
3) 1/20 H.P. General Electric constant speed motor.
4) One dual and one single speed idler.
5) Adjustable stops to regulate idler pressure against turntable.
6) 10 lb. machined mounting base of Cast Iron, with integral lathe bored and lapped turntable bearing.
7) This single unit type construction insures positive and easy alignment of the REK-O-KUT overhead mechanism with the turntable.
8) Entire assembly can be permanently installed in 15 minutes.

RK-D16—Dual Speed 16" Recording table, mounting base and motor.......... **Net Price, $148.38**

RK-D12 DUAL SPEED 12" RECORDING MOTOR ASSEMBLY

The answer to the demands of small studios, program and advertising agencies, educational institutions, etc. . . . for professional dual speed 12" recording units at substantially lower cost. Design and construction similar to model RK-D16, 16" assembly. Turntable can accommodate 16-inch blanks for playback.

CONSTRUCTION—Similar to RK-D16 (16" assembly) in material, workmanship and design. RK-D12 differs only in that the cast iron turntable weighs 12 lbs., and smaller constant speed recording motor and special rotor speed shift arm are employed.

	Net Price
RK-D12—Dual Speed 12" Recording table, base and motor	**$59.50**
RK-12—Single Speed 12"	**37.50**

RK Monitor Meter

MONITOR METER

A sturdy meter of the rectifier type, especially designed for monitoring purposes. The meter has four scales, one reading from —10 db. to +7 db., and a second from +7 db. to +25 db. The other two scales for recording level indication are calibrated in terms of "undercut," "normal cut," and "overcut." They are clearly indicated. The meter is tapped for 8 ohm and 500 ohm input.

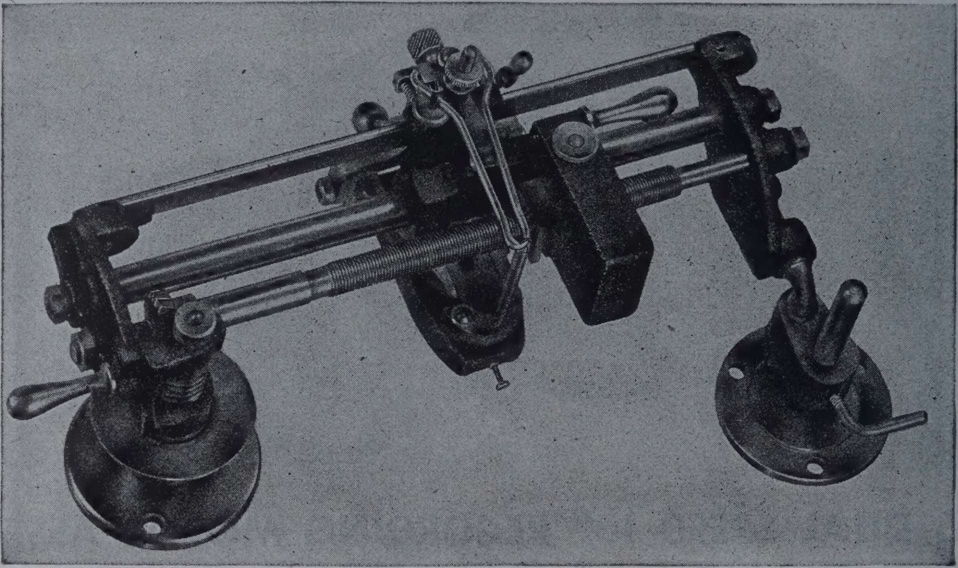
RK—Monitor Meter Dual scale 8 and 500 ohm......**Net Price, $9.75**

ACCESSORIES

	Net Price
F-12—120 line deluxe lathe cut feedscrew with gear and feednut for 12" units	**$13.50**
F-16—120 line deluxe lathe cut feedscrew with gear and feednut for 16" units	**15.75**
RC-20—Brush crystal cutter	**15.00**
R-84—Webster magnetic cutter for 8 ohms	**12.00**
R-84G—Webster magnetic cutter for 500 ohms	**12.00**
M-41—Astatic magnetic cutter for 8 or 500 ohms	**7.00**
X-29—Astatic crystal cutter	**7.00**
44-A—Shure magnetic cutter	**7.00**
Rubber turntable pad for 12" table	**.90**
Rubber turntable pad for 16" table	**1.50**

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

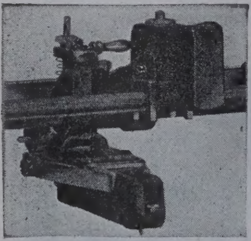
REK-O-KUT Professional RECORDING EQUIPMENT



REK-O-KUT OVERHEAD FEED MECHANISMS

(Illustrated above with horizontal type crystal cutter)

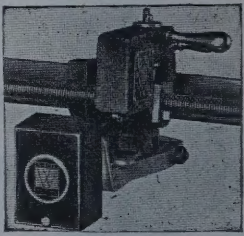
The REK-O-KUT 1942 Model overhead feed mechanism is the first professional unit to offer a Universal Cutter Mount with micrometer adjustment. This exclusive feature, not found on any other machine, permits the user to interchange the vertical magnetic cutter with the horizontal crystal or magnetic type, or the Brush Crystal oblong Cutter, without changing the position or the height of the mechanism after it has been mounted. The micrometer adjustment enables the operator to raise or lower the cutter in easy stages to compensate for the height of the cutter, and to get the proper stylus angle. Mechanisms are made for both 12″ and 16″ turntables.



Universal cutter mount with Brush crystal oblong type cutter.

OUTSTANDING FEATURES

1) Universal cutter mount for interchanging popular type cutters.
2) Micrometer adjustment for selecting preferred stylus angle and to compensate for record thickness, without raising or removing the entire mechanism.
3) Double action swivel for easy alignment of mechanisms with REK-O-KUT turntable.
4) Simplified carriage lift for accurate spot recording or spiral.
5) Standard units record 100 lines per inch, outside in. Also available inside out at no extra charge.
6) Deluxe units are now offered with 120 line precision, lathe cut feedscrews.
7) Either 100 or 120 line feedscrews available as standard replacements.
8) Patented chip collector eliminates stylus "pull" and doublecutting.



Universal cutter mount with vertical magnetic type cutter.

Overhead Feed Recording Mechanisms (For 12" Records)

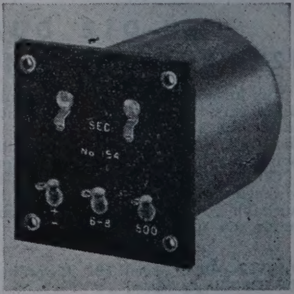
	Net Prices	
	Standard 100 Lines	Deluxe 120 Lines
RX-12—With Astatic Crystal X-29 Cutter	$42.50	$55.00
RM-12—With Astatic Magnetic M-41 Cutter	42.50	55.00
RW-12—With Webster R84, 30-6000 cycles	47.50	60.00
RB-12—With Brush RC 20 Crystal Cutter	53.00	65.50

(For 16" Records)

RX-16—With Astatic Crystal X-29 Cutter	$51.50	$66.25
RM-16—With Astatic Magnetic M-41 Cutter	51.50	66.25
RW-16—With Webster R84, 30-6000 cycles	55.75	70.50
RB-16—With Brush RC20 Crystal 50-9000 cycles	61.50	76.25

ALL MAGNETIC CUTTERS AVAILABLE 8 OR 500 OHMS
NO OVERHEAD MECHANISMS SOLD WITHOUT CUTTERS

RK MATCHING TRANSFORMER

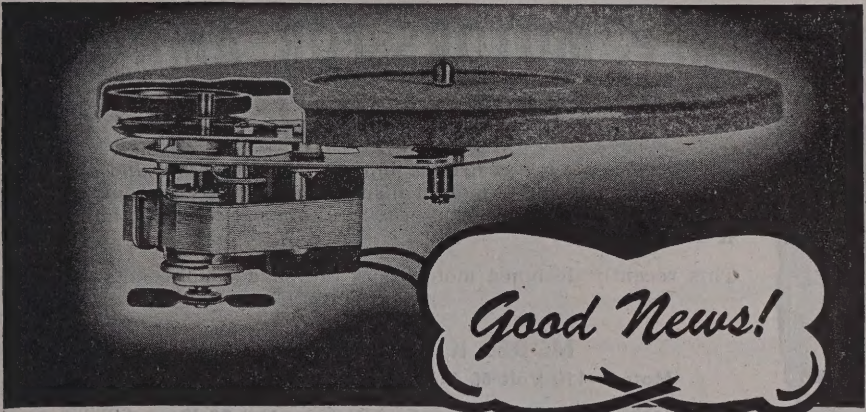


Specially designed to operate with Brush High Fidelity cutter. The frequency response of the RK Matching Transformer is flat from 50 to 9000 cycles. Input taps of 6-8 and 500 ohms gives user a choice of tapping his cutter into either an 8 ohm or 500 ohm line. This matching transformer is required where the user of a crystal cutter is unable to have a direct hook up to a high impedance line.

RK—Matching Transformer for Brush and Astatic Cutters 50-9000 cycles, **Net Price, $5.50**

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

ALLIANCE "Even Speed" PHONO-MOTORS



TWO MOTORS THAT MEET 95% OF ALL REPLACEMENT REQUIREMENTS

"Even-Speed" MODEL 80

Available for operation on 110 or 220 volt, 40, 50 or 60 cycle source at 16 watts input, 78 R.P.M. only. Simple and quiet in operation—no gears—smooth positive friction rim drive. Good regulation characteristics for uniformity of table speed. Amply proportioned bearings—large oil reserves. Motor and idler plate shock mounted to mounting plate for low vibration transfer to turntable and motor board. Forced ventilation for cool operation. Slip type fan precludes possibility of injury. Mounting plate maintains correct turntable height regardless of mounting board thickness. Available with 8, 9 or 10 inch turntable top. Maximum depth below base mounting plate, $2\frac{1}{16}$ inches.

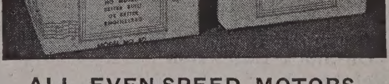
PRICES

110 V. 60 C.—78 R.P.M. with

8″ Table	List $5.00	Net **$3.00**
9″ Table	List 5.28	Net **3.17**
10″ Table	List 5.55	Net **3.33**

EXTRAS ON BASE PRICES

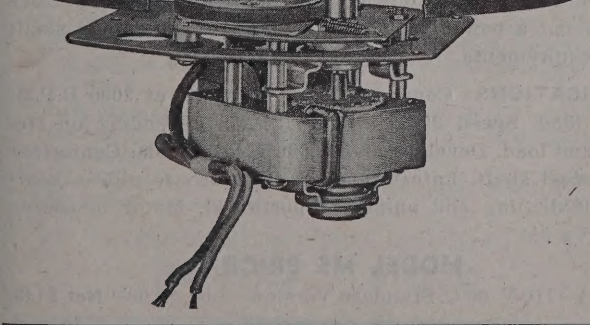
220 V. 60 C.	List $1.00	Net **$0.60**
110 V. 50 C.	List 1.00	Net **.60**
220 V. 50 C.	List 1.00	Net **.60**
110 V. 40 C.	List 1.00	Net **.60**
CESA Approved Type	List .75	Net **.45**



ALL EVEN-SPEED MOTORS INDIVIDUALLY PACKAGED

Retractible Turntable Pin—
List $0.28—Net **$0.17**

"Even-Speed" MODEL K



The 25-cycle Companion to the Model 80 Friction Drive Phonomotor. Available for operation on 110 V. 25 cycle source at 12 watts input. This phonomotor is designed specifically for 25 cycle operation, having a motor of entirely new design, but employing the same efficient, positive, friction rim drive as the popular Model 80. Interchange-ability in mounting is therefore obtained without sacrifice in performance. Amply proportioned bearings and large oil reserves assure long, trouble-free service. Motor and idler plate are shock mounted to cabinet mounting plate for low vibration transfer to turntable and motor board. Available in 8 or 9 inch turntable sizes only. Maximum depth below base mounting plate, 2¼″.

PRICES

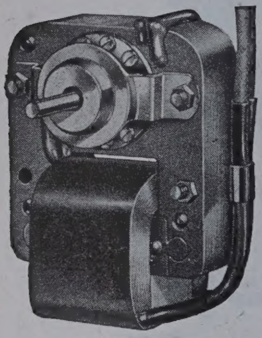
110 Volt—25 C.—78 R.P.M. with

8″ Table—List $6.50	Net **$3.90**
9″ Table—List 6.75	Net **4.05**
CESA Approved Type—List $0.75	Net **.45**
Retractible Turntable Pin	**$0.17 Extra Net**

ALLIANCE Fractional Horse Power MOTORS

FRACTIONAL H. P. MOTORS FOR AMATEUR NEEDS

MODEL "K"



New Model "K"
Full Size Motor Measures
⅛" x 2⅜" x $3\frac{3}{16}$"

Scores of uses such as driving fans, movie projectors and other light home appliances, powering toys, motion displays, switches and control systems—these and many other applications are proving the lasting dependability of Alliance's Model K Motor.

This recently designed motor is of the shaded pole induction types and the the last word in efficient small motor design. Finest materials and precision manufacturing assure long life and freedom from breakdowns.

MODEL K PRICES

Motor—110 Volt 60 C. Standard Version

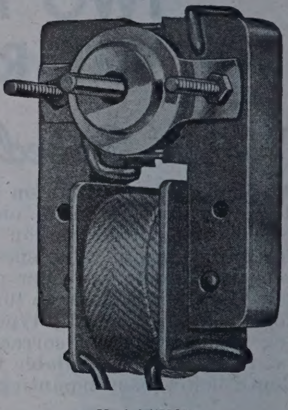
Spec. K828 — .8" Stack — List $4.00 — **Net $2,40**
Spec. K1002 — 1.0" Stack — List 4.75 — **Net 2.85**
Spec. K1201 — 1.2" Stack — List 5.50 — **Net 3.30**

MODEL K SPECIFICATIONS

117 V.—60 Cycle—Cont. Opening Rating—50° C. Rise—No Fan

Stack Thickness, Inches	**.800**	**1.000**	**1.200**
Locked Amps.—Cold	.68	.75	.82
Locked Watts—Cold	36.0	41.0	46.0
Starting Torque—Oz. In. Cold	1.5	1.9	2.5
Idle Amps.—Hot	.52	.54	.56
Idle Watts—Hot	22.0	23.0	25.5
Idle R.P.M.—Hot	3450	3450	3450
Full Load Amps.	.57	.60	.65
Full Load Watts	28	32	36
Full Load Horsepower	.0068	.0085	.0100
Full Load Torque Oz. In.	2.4	2.9	3.5
Full Load—R.P.M.	2900	2900	2900
Overall Dimensions, Exclusive of Take Off-Shaft Extension	$3\frac{3}{16}$" x 2⅜" x 2⅛"	$2\frac{5}{16}$"	$2\frac{35}{64}$"
Weight	1lb 12-oz.	2lb 2-oz.	2lb 8-oz.

Rotor Shaft—Centerless Ground .171" Diameter.
Bearings—Graphite Bronze Oilless Type, Self-Aligning, Amply Proportioned.



Model "MS"
Full Size Motor Measures
1¾" x 2" x 3⅛"

Replacement Parts for MODELS 80 and K

FINISHED TURNTABLE TOP ONLY STANDARD BROWNFLOCK

Model 80 Type
Y-278R2— 8" Size—List $0.97—**Net $0.58**
Y-278S2— 9" Size—List 1.03—**Net .62**
Y-278T2—10" Size—List 1.14—**Net .68**

IDLER WHEEL ASSEMBLY ONLY

X643R—List $0.75 .... **Net $0.45**

T.T. HOLDING CLIP

Y959—List $0.05 .... **Net $0.03**

60 TO 50 CYCLE CONVERSION SPRING
(Specify Table Size)

X805—List $0.10 .... **Net $0.06**

MODEL "MS"

For 110 volt (A.C.) 60 cycle operation. Only the very best quality of materials used. Extreme accuracy in sizes of parts and careful assembling in precision jigs make for long life and freedom from breakdowns. This motor is not a laboratory curiosity but a power unit designed to meet numerous small motor requirements.

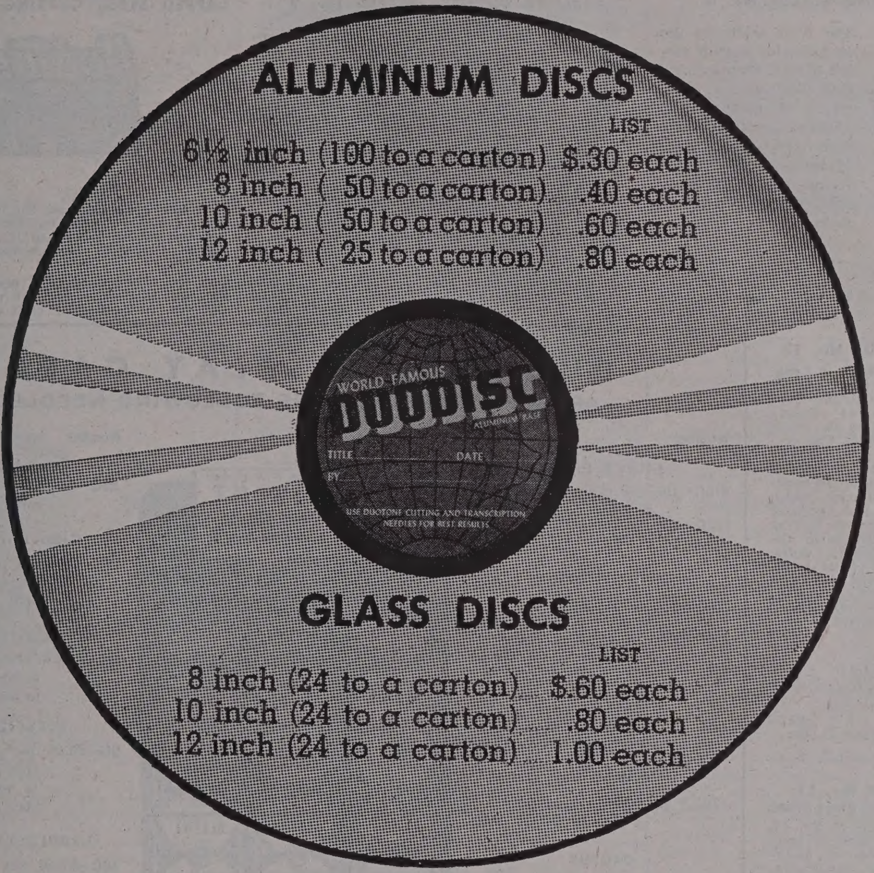
SPECIFICATIONS: Consumes about 25 watts at 3000 R.P.M. without load. Speed 2500 to 3000 R.P.M., depending on frequency and load. Develops about .006 H.P. $\frac{5}{32}$" Dia. Centerless ground steel shaft. Latest type graphite bronze oilless bearings, self-aligning and amply proportioned. Motor measures 1¾" x 2" x 3⅛"

MODEL MS PRICE

Spec. 144—110 V. 60 C. Standard Version—List $3.00—**Net $1.80**

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DUOTONE *Recording Blanks*


WORLD FAMOUS
DUODISC
ALUMINUM BASE
TITLE
DATE
BY
USE DUOTONE CUTTING AND TRANSCRIPTION NEEDLES FOR BEST RESULTS

ALUMINUM DISCS

	LIST
6½ inch (100 to a carton)	$.30 each
8 inch (50 to a carton)	.40 each
10 inch (50 to a carton)	.60 each
12 inch (25 to a carton)	.80 each

GLASS DISCS

	LIST
8 inch (24 to a carton)	$.60 each
10 inch (24 to a carton)	.80 each
12 inch (24 to a carton)	1.00 each

DuoTone-VAN EPS CUTTING HEAD

This cutting head has a reed armature, which is rugged, and acts as its own damper, eliminating rubber, and other deteriorating materials which usually cause cutting heads to change from day to day.

The measured distortion is 1.8% at 400 cps.

The impedance of the cutter is actually 500 ohms at 400 cps.

It requires only plus 20 db level (6 milliwatts in 500 ohms) for normal amplitude. This is less than 1 watt of power.

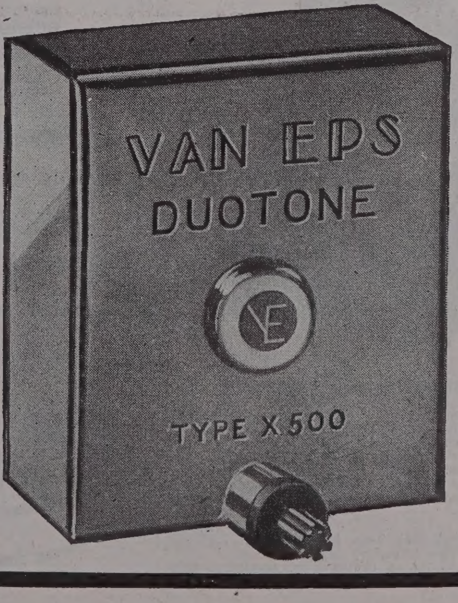
It is easily installed. The head comes equipped with an extra mounting plate for instant mounting and is easily interchanged where other heads are used.

It is carefully tested at our laboratory and a graph accompanies each cutter, giving the frequency response.

The head is hermetically sealed and GUARANTEED if the seal is not broken.

. . . Write for Descriptive Literature . . .

Net Price . . . $150.00


VAN EPS
DUOTONE
VE
TYPE X500

DUOTONE *Needles*

STEEL CUTTING STYLUS No. 8

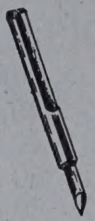
No. 8P
DUOTONE CUTTING NEEDLES
4 for $1.00

The ideal needle for use in homes by amateur record makers. With ordinary care will make a quiet, record of good quality, which can be played back many times. Will make approximately 15 to 25 10″ records. Packed 4 to handy point-protecting felt-lined package.

	List
Cat. No. 8-P—Package of 4 needles	$ 1.00
Cat. No. 8-B—Carton of 25 pkgs	25.00
Cat. No. 8-C—Display card of 25 pkgs	25.00

STELLITE CUTTING STYLUS No. 9

Available in Long and Short Shank



The Stellite cutting stylus with proper care, will make a record that compares favorable with a professional cutting. Its hand-lapped edge cuts a groove which assures a noiseless recording. Stellite styli are recommended after some cutting experience has been acquired. The reduction in surface noise and the improved quality of the recording will be instantly noticeable, and will be well worth the difference in cost. Will cut approximately 500 6″ records. Individually packed on cards.

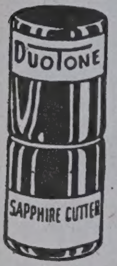
	List
Cat. No. 9-P—Needle, each	$ 2.00
Cat. No. 9-B—Carton of 12 needles	24.00
Cat. No. 9-C—Display card of 12 needles	24.00

LAPPED *STEEL* CUTTING STYLUS No. 10

The hand-made lap on the cutting edge of the needle, makes a much smoother cut, thereby reducing surface noise and adding to the life of the needle. Especially recommended for making vocal recordings.

	List
Cat. No. 10-P—Card of 5 needles	$ 1.50
Cat. No. 10-B—Carton of 50 needles	15.00
Cat. No. 10-C—Display card of 50 needles	15.00

SAPPHIRE STYLUS No. 12



No. 11
No. 12

Available in Long and Short Shank

The sapphire Professional cutting stylus is the finest available. The cutting jewel is very highly polished and has a patented hand-lapped edge, which cuts and polishes the groove, making a record with the lowest surface noise. With proper handling will give 10-15 hours of cutting and can be resharpened many times.

DO NOT DROP

Packed in plastic container.

Cat. No. 12—Needle, list price, each $5.50
(Resharpening—Each $2.00)

DURAL SHANK No. 11

Available in Long and Short Shank

This needle is similar to No. 12, and in addition is held to more exacting specifications, as established by leading engineers. Mounted in Dural shank. Packed in plastic container. Each $7.25
(Resharpening—Each $2.00)

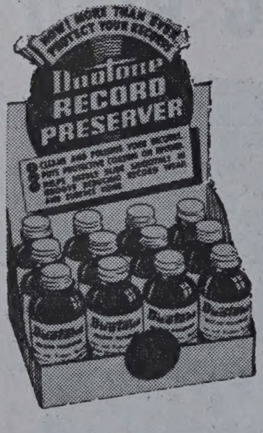
DUOTONE DISPLAY CARDS

ARE AVAILABLE FOR THE FOLLOWING NEEDLES

Number	List
FILTER POINT	
610C—10c per pkg.—50 pkg. to card	$5.00
625C—25c per pkg.—50 pkg. to card	12.50
TRANSCRIPTION	
710C—10c per pkg.—50 pkg. to card	5.00
725C—25c per pkg.—50 pkg. to card	12.50
DURPOINT	
15C—$1.00 each—12 needles to card	12.00
CHROMIUM	
17C—5 needles to pkg.—25c, 25 pkg. to card	6.25
CACTUS	
18C—35c per pkg.—25 pkg. to card	8.75

DUOTONE
REGENT
Jewel Tipped
PHONOGRAPH Needle
PLAYS UP TO 5,000 RECORDS -- PRICE $2
REGENT
REGENT
REGENT
REGENT
REGENT
REGENT
REGENT
REGENT
REGENT
REGENT
REGENT
REGENT

Number	List
LIFETONE	
20C—$1.50 per needle—12 cards to display	$18.00
MIRO POINT NEEDLE	
21C—50 cents per needle—18 needles to display	9.00
STEEL CUTTING STYLUS	
8C—$1.00 per pkg. of 4 needles—25 pkg. to display card	25.00
STELLITE STYLUS	
9C—$2.00 per needle individually packed—12 needles to display card	24.00
LAPPED STEEL STYLUS	
10C—$1.50 per pkg. of 5 needles—10 pkg. to display card	15.00

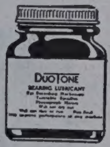


DUOTONE RECORD PRESERVER

A newly developed fluid that helps make phonograph records (Victor, Columbia, Decca, etc.) last much longer. Duotone Record Preserver not only cleans the record, but actually puts a thin protective coating on it. This coating protects the record against excessive wear and in addition enables the needle to glide smoothly, thus reducing surface noise.

	List
Cat. No. 105-P—One 2-oz. bottle, each	$0.50
Cat. No. 105-B—Attractive display carton of twelve 2-oz. bottles	6.00

DUOTONE RECORDING FLUIDS

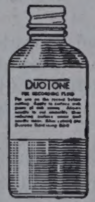


BEARING LUBRICANT

For Recording Mechanism, Turntable Spindles and Phonograph Motors.
Will not dry out—will not thin or run—Non-Acid. Will improve performance of any machine.

Cat. No. 103-P

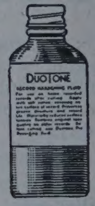
	List
Each	$0.50
Cat. No. 103-B	
Carton of 12 bottles	6.00



PRE-RECORDING FLUID

For use on the disc before cutting. When applied to the surface with a piece of soft cotton, it allows the needle to cut smoothly, thus reducing surface noise and needle wear. Will not harm ANY kind of coating.

Cat. No. 101-P	List
Each	$0.50
Cat. No. 101-B	
Carton of 12 bottles	6.00

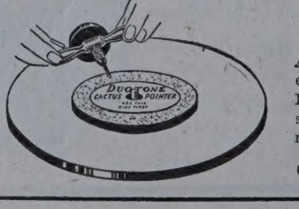


HARDENING FLUID

For use on home recorded records after cutting. Apply to surface with piece of soft cotton, covering entire surface of record. Preserves groove structure and record life. Materially reduces surface tension. Restores original tone quality on older records.

Cat. No. 102-P

	List
Each	$0.50
Cat. No. 102-B	
Carton of 12 bottles	6.00



CACTUS NEEDLE SHARPENER No. 104

A "fool proof" sharpener guaranteed to make a point the equal of a new one. Utilizes the turntable of your phonograph. Each disc has pointing and polishing sides, assuring a sharp smooth finish to the point. Emery disc will last for many months. Extra discs available 30c each at any dealer.

	List
Cat. No. 104—Each	$1.25
Extra discs, each	0.30

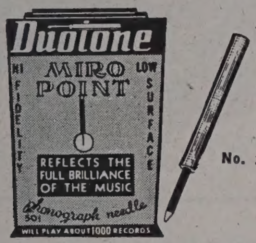
DUOTONE *Needles*

FILTER POINT
No. 610

Duotone
FILTER POINT
35 NEEDLES 25¢
No.610

The Filter Point needle is a newly developed needle which actually filters surface noise, yet retains the brilliance of your recordings.' The highly polished and rounded point assures smooth movement in the record groove, reducing record wear to a minimum. The needles are hand picked and will play from 12 to 15 records without frequency loss or distortion. The specially designed point is guaranteed not to break when used with any type of record changer.

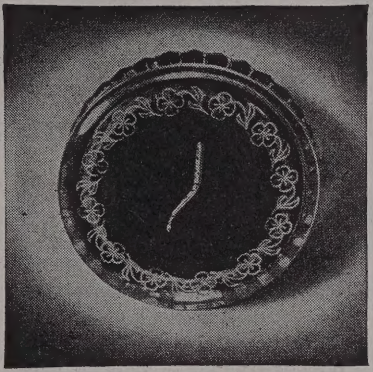
	List
Cat. No. 610-P—Package of 12 needles	$ 0.10
Cat. No. 610-B—Carton of 100 pkgs	10.00
Cat. No. 610-C—Display card of 50 pkgs	5.00
Cat. No. 625-P—Package of 35 needles	$ 0.25
Cat. No. 625-B—Carton of 50 pkgs	12.50
Cat. No. 625-C—Display card of 50 pkgs	12.50
Cat. No. 665-P—Package of 100 needles	$ 0.65
Cat. No. 665-B—Carton of 25 pkgs	16.25


Duotone
HI FIDELITY
MIRO POINT
LOW SURFACE
REFLECTS THE FULL BRILLIANCE OF THE MUSIC
Phonograph needle
501
WILL PLAY ABOUT 1000 RECORDS

No. 21

The Miro Point Needle is the "low surface" specialist of the DuoTone Line. Despite this fact it still brings out the highs in a manner never before attained by a needle of this type. Designed to play at least 1000 records the Miro Point is the outstanding needle in the field today.

	List Price
Cat. No. 21-P—Needle, list price, each	$0.50
Cat. No. 21-C—Display card of 18 needles	9.00

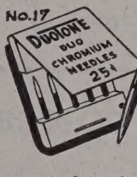


No. 19 "STAR" SAPPHIRE

Reproduces any type of record without surface noise yet maintains brilliant high frequencies. Finest quality gem, brightly polished for smooth riding in groove. Special design filters out all noise and needle talk. Has flat on shank for easy insertion in pickup. May be removed if desired. Individually packed in beautiful lucite box. Ideal for dubbing.

	List Price
Cat. No. 19-P—Needle, list price, each	$ 5.00
Cat. No. 19-B—Carton of 12 needles	60.00

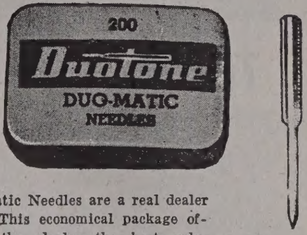
CHROMIUM No. 17



The Duotone Chromium needle is Duo Chrome plated to insure long life and minimum record wear. Ideally suited for use on record changers. Each needle has a highly polished surface, and is shadowgraphed. Being of a semi-permanent type, the Chromium needle avoids the necessity of constantly changing needles. Each needle is guaranteed to play at least 50 records, assuring a full evening of music without requiring a change of needle.

	List Price
Cat. No. 17-P—Package of 5 needles	$ 0.25
Cat. No. 17-B—Carton of 50 pkgs	12.50
Cat. No. 17-C—Display card of 25 pkgs	6.25

DUO-MATIC No. 22



Duomatic Needles are a real dealer item. This economical package offers the dealer the best value obtainable. 200 needles for $1.50.

Also an excellent item for the regular record buyer. The handy tin provides a permanent receptacle for keeping the needles available at all times. Because of their non-breaking quality they are perfect for use on record changers

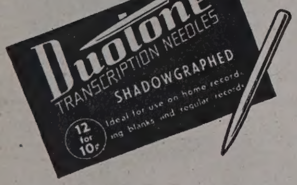
	List Price
Cat. No. 22-P—Tin of 200 needles	$1.50
Cat. No. 22-B—Carton of 5 tins	7.50

DUOTONE
No. 20
"LIFETONE"
OSMIUM
TIPPED
5000
PERFECT
PLAYINGS

The DuoTone Lifetone Needle was especially designed for use with record changers. Its brilliant performance coupled with low surface noise makes it ideal for this purpose. When properly used, it will give at least 5000 perfect playings, maintaining throughout its life the same bright reproductive qualities. Packed in beautiful plastic container.

	List Price
Cat. No. 20-P—Needle, each	$ 1.50
Cat. No. 20-B—Carton of 12 needles	18.00
Cat. No. 20-C—Display card of 12 needles	18.00

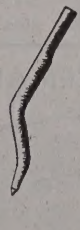
TRANSCRIPTION No. 710



Transcription needles are individually shadowgraphed to insure each needle being perfect. They are especially designed to reduce record wear on home recordings and will give life-like reproductions when used on commercial or home records. This needle, because of its perfect point and fine frequency response, is extensively used by broadcasting stations, and recording studios. Economically packd for use in homes and studios.

	List Price
Cat. No. 710-P—Package of 12 needles	$ 0.10
Cat. No. 710-B—Carton of 100 packages	10.00
Cat. No. 710-C—Display card of 50 packages	5.00
Cat. No. 725-P—Package of 35 needles	$ 0.25
Cat. No. 725-B—Carton of 50 packages	12.50
Cat. No. 725-C—Display card of 50 packages	12.50
Cat. No. 750-P—Package of 100 needles	$ 0.50
Cat. No. 750-B—Carton of 20 packages	10.00

NEW REGENT SAPPHIRE
(Double Bend)
No. 13



A permanent needle with a flat on the shank allowing removal from, and insertion into pickup as required. Will play approximately 6000 home recordings, or 5000 commercial recordings. Finest quality jewel assures natural tone reproduction and very low record wear. Especially recommended for use in lightweight pickups. Packed on individual card.

	List Price
Cat. No. 13-P—Needle, each	$ 2.00
Cat. No. 13-B—Carton of 12 needles	24.00
Cat. No. 13-C—Display card of 12 needles	24.00

DURPOINT No. 15

DurPoint
BY DUOTONE
PLAYS UP TO 4000 RECORDS
$1.00
NEW PRINCIPLE IMPROVES TONE QUALITY

Permanent needle for home use. Will play over 4000 records without changing. Takes additional polish from the groove of the record thus minimizing record wear, and reducing surface noise. Because of this feature the Durpoint should not be removed from pick up until replacement is necessary. Packed individual cards.

	List Price
Cat. No. 15-P—Needle, each	$ 1.00
Cat. No. 15-C—Display card of 12 needles	12.00
Cat. No. 15-B—Carton of 12 needles	12.00

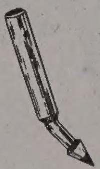
CACTUS NEEDLES No. 18

Duotone
CACTUS
NEEDLES

Made from specially selected cactus thorns chemically treated to prolong life of point and assure quiet reproduction. Each needle may be re-sharpened many times. Can be used on record changers as well as ordinary phonographs. Especially recommended for use on records with high surface noise.

	List Price
Cat. No. 18-P—Package of 12 needles	$ 0.35
Cat. No. 18-B—Carton of 50 packages	17.50
Cat. No. 18-C—Display card of 25 pkgs	8.75

BENT SAPPHIRE PLAYBACK
No. 14



The Duotone Bent Sapphire needle will play over 2000 records with a minimum of record wear and surface noise. The highly polished jewel point will reproduce your finest records with a tone value of unusual fidelity. Should not be removed from pickup. Packed on individual card.

	List Price
Cat. No. 14-P—Needle, each	$ 1.50
Cat. No. 14-B—Carton of 12 needles	18.00
Cat. No. 14-C—Display card of 12 needles	18.00

Jensen PHONOGRAPH NEEDLES for the world's finest music

The Royal Jewel Genuine Sapphire Needle

Jensen
Royal Jewel Needle
Genuine Sapphire Permanence

Jensen Royal Jewel Display with 12 individually packaged needles . . . Catalog Number 25 D. List price.......................$30.00

Designed by a recognized authority in the field of sound engineering, the Jensen Royal Jewel Phonograph Needle has a genuine sapphire tip—the same precious jewel universally used in fine watches and delicate precision instruments. The design of the needle assures full tonal range and high fidelity. The sapphire tip provides smoothness and extraordinary long life. It absorbs vibration, minimizes hiss, prolongs the life of valuable records. And it plays over 10,000 times. Illustrated here is the much talked about Jensen Royal Jewel Needle display with the velour tray holding twelve slick-black oval packages. The attractive backboard is printed in full color and invites considerable interest in the needle.

PRICE $2.50
Royal
Jewel
Jensen

Jensen Royal Jewel Genuine Sapphire Phonograph Needle . . . Catalog Number 25. List price..................................$2.50

The POPULAR Jensen CONCERT NEEDLE

Jensen
PHONOGRAPH NEEDLE
$1.00
FOR 5000 PLAYS
for the World's Finest Music

The full tonal range, fidelity and long wearing qualities of the Jensen Concert Needle are assured by the *precious metal tip* and the flanged design. The spring action of this popular needle preserves the surface of records and lengthens their playing life. It incorporates all of the latest discoveries in acoustical science; plays up to 5,000 times.

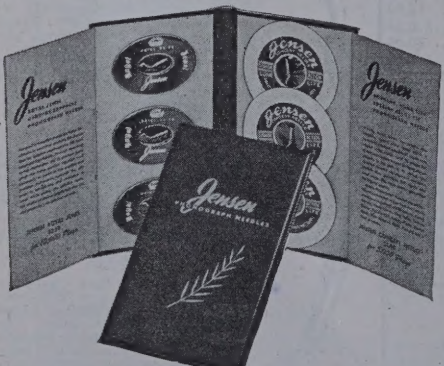
Pictured at the left is the colorful, point-of-sales display holding twelve individual blue and gold packages of Jensen Concert Needles. The display card bears signature endorsements of the needle by famous orchestra leaders.

Jensen Concert Phonograph Needle . . . Catalog Number 10. List price..$1.00

Jensen Concert Needle Display holding twelve needles . . . Catalog Number 10 D. List price..........................$12.00

Jensen
CONCERT NEEDLE
CUSHION
ACTION
5000
PLAYS
$1.00
PROTECTS TREASURED RECORDS

The RADIO SERVICEMAN'S HANDY SALES KIT



The Jensen Phonograph Needle Saleskit (designed especially for Radio Servicemen) contains three Jensen Concert Needles retailing at $1.00 and three Jensen Royal Jewel Needles retailing at $2.50 each. This compact, convenient kit is just the thing for slipping into the pocket and taking on service calls . . . a definite aid in demonstrating fine phonograph needles. It's a real sales-help. Descriptive copy is printed alongside the needles as a sales convenience. Jensen Phonograph Needle Saleskit holding 6 Needles as above. Catalog Number 6 K. List price................$10.50

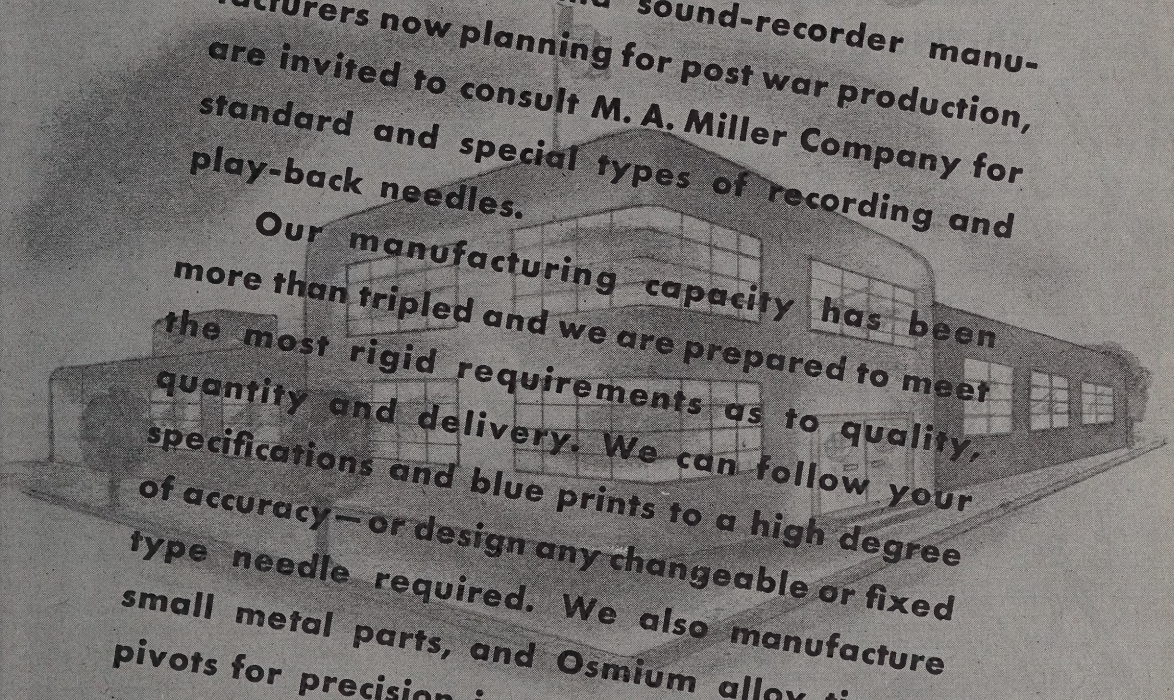
Jensen
PHONOGRAPH NEEDLES

The COIN MACHINE NEEDLE KIT

The Jensen Coin Machine Needle Sales kit is a handy, leatherette covered aid for the coin machine serviceman. It consists of a pocket-size kit with a note pad for ready reference notations. Supplied with 100 coin machine needles in units of 10 needles. Each needle card has space for a record of the needle's playing history. Jensen Coin Machine Needle Saleskit. . Catalog Number 10 K.

THE Jensen INDUSTRIES INC.

Planning FOR TOMORROW



Phonograph and sound-recorder manufacturers now planning for post war production, are invited to consult M. A. Miller Company for standard and special types of recording and play-back needles.

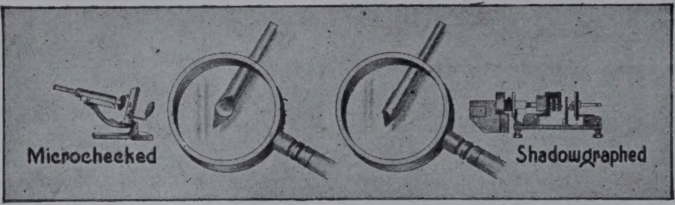
Our manufacturing capacity has been more than tripled and we are prepared to meet the most rigid requirements as to quality, quantity and delivery. We can follow your specifications and blue prints to a high degree of accuracy—or design any changeable or fixed type needle required. We also manufacture small metal parts, and Osmium alloy tipped pivots for precision instruments.

We solicit inquiries on specially packaged and private label needles.

M. A. MILLER MANUFACTURING CO.
1168 East 43rd Street Chicago, Ill.

M. A. Miller RECORDING AND PLAYBACK NEEDLES

Ask for samples and quotations on NEW "flame polished" sapphire needles

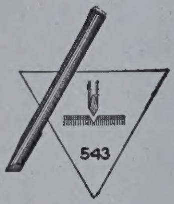


INDIVIDUALLY MICROCHECKED AND SHADOWGRAPHED TO INSURE PERFECTION . . .

To insure a high standard of quality in Miller "Clarion Dynamic" needles, each needle is carefully checked by micrometer, and inspected with the aid of powerful shadowgraphs, magnified over 200 times to reveal possible flaws and maintain uniform quality.

MILLER FAMOUS "CLARION DYNAMIC" QUALITY

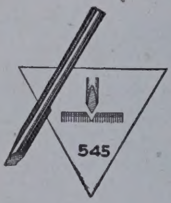
CUTTING NEEDLES



Alloy Tool Steel

Made of the finest alloy tool steel, microscopically ground and polished with diamond dust. Recommended for amateur home use. Will cut approximately twenty-five six-inch records.

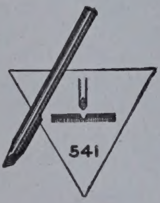
List $ .25



Precious Metal Alloy

Precious metal alloy tip recording stylus, for the advanced amateur. A sturdy, long wearing, highly polished needle. Cuts a V bottom groove. Will make approximately three hundred six inch recordings.

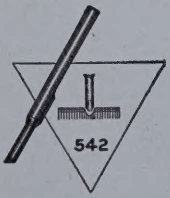
List $ .50



Precious Metal Alloy

A high grade recording stylus, for the advanced amateur and professional use. Electrically welded precious metal alloy tip, microscopically ground, and polished with diamond dust. Hand finished tip cuts round bottom groove for best possible results. Will cut approximately five hundred six inch records.

List $1.00

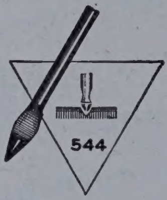


Stellite

This patented Stellite recording stylus, when used by the advanced amateur or professional, will give results closely approximating the finest Sapphire. Hand finished tip, cuts quiet round bottom groove. Will cut approximately five hundred six inch records.

List $1.25

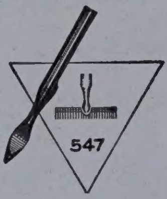
PLAYBACK NEEDLES



Rigid Type

Semi-permanent, precious metal alloy tip, play back needle for home or commercial use. Rigid type, high fidelity. Will play more than four thousand records. Ideal for coin operated phonographs.

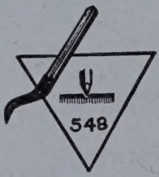
List $ .50



Flexible Type

Semi-permanent, flexible type play back needle, for home use on new light weight pick-ups. Reduces record scratch to minimum. Precious metal alloy tip, will play more than four thousand records.

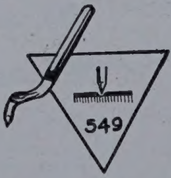
List $1.00



Offset Type

Scientific construction gives highest possible fidelity reproduction with lowest possible distortion and scratch.

List $ .50



Osmium Alloy Tip

Gold plated bent needle. Highly polished. Enamelled shank. The finest permanent type Osium Alloy tipped needle on the market.

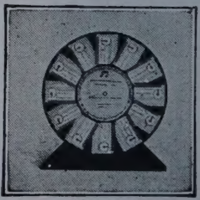
List $1.50

CELLOPHANE WRAPPED CARDS

Needles mounted on individual cards and enclosed in cellophane envelopes.

CLARION DYNAMIC
RECORDING STYLUS
• DIAMOND POLISHED
• LONG LIFE

INCREASE YOUR SALES WITH OUR NEW COUNTER SALES BUILDER. TWELVE NEEDLE CARDS MOUNTED ON EACH DISPLAY.



INSTANTANEOUS RECORDING BLANKS

THE RECORDISC CORP.

395 BROADWAY, NEW YORK 13, N. Y., • CABLE ADDRESS: RECORDISC, NEW YORK, N. Y.
EXPORT DEPT.: ROYAL NATIONAL COMPANY, INC., 89 BROAD STREET, NEW YORK

RecorDisc Home Recording Blanks "Snapshots-in-Sound"

There are two types of coatings which may be applied to the surfaces of home recording blanks—cellulose nitrate or ethyl cellulose. Of these two, it has been proved that cellulose nitrate is far superior because of a number of advantages, including high fidelity, life-like reproduction, long wearing qualities, and the ability to withstand age and playback without cracking or peeling. In fact, cellulose nitrate is the specified coating for discs used in commercial broadcasting stations, recording studios, governmental agencies and all other professional assignments. While ethyl cellulose may not enjoy the high rating of cellulose nitrate, it, nevertheless, has a film approved by the Underwriters Laboratories, and affords satisfactory reproduction and playback life.

***RecorDisc* blanks manufactured for regular stock are coated with cellulose nitrate—the finest that money can buy. Customers are assured of all the results explained in the foregoing paragraph. Made up on special order, and at no increase in cost, is a complete line of *RecorDisc* blanks employing ethyl cellulose with the U/L approved film. *RecorDisc* blanks, with either type of coating, are available in the following bases and identifying labels:**

ORANGE LABEL

BOND BASE

Designed primarily for the home recording fan, these discs are admirably suited to the average type of amateur transcription, where low price is required. Heavy and firm, with a compo base that is thick, these recording blanks are carefully coated with our standard **RecorDisc** surface compound. Because of their low cost, they are a "party" favorite. Professional nitrate coated.

BLUE LABEL

STEEL BASE

Favored by schools, colleges, conservatories, orchestras, and more advanced home recording enthusiasts. These blanks are uniformly coated over a heavy specially processed, critically inspected steel base. "Blue Label" discs are used for brilliant and consistent reproduction quality, over a wide frequency range. They assure smoothly cut grooves, with surface noises reduced to a bare minimum. They are vastly superior to commercial phonograph records. Professional nitrate coated.

RED LABEL

ALUMINUM BASE

These aluminum base discs, made on heavy .021 aluminum, are coated with the famous **RecorDisc** flawless compound to assure high fidelity reproduction over wide frequency ranges. Comparable in quality to those used by broadcasting stations and professional recording studios, "Red Label" discs have been reduced in size for universal adaptation by those who want professional discs for equipment of non-professional size. "Red Label" discs are created for critical users who require the finest discs available in small sizes. Professional nitrate coated.

ALSO AVAILABLE ON SPECIAL ORDER—
RecorDisc perfected ethyl cellulose coated discs, U/L approved.

YELLOW LABEL
Same quality and price as ORANGE LABEL

GREEN LABEL
Same quality and price as BLUE LABEL

BROWN LABEL
Same quality and price as RED LABEL

GRADE	LIST PRICES		
(color code)	6½ inches	8 inches	10 inches
ORANGE LABEL	10¢	20¢	30¢
BLUE LABEL	20¢	30¢	40¢
RED LABEL	25¢	35¢	45¢

RECORDING AND PHONOGRAPH STYLI, NEEDLES AND ACCESSORIES

SAPPHIRE STYLUS

While this type of cutting needle represents a greater initial investment, it has the longest life and produces superior instantaneous recording. The specially lapped sapphire point cuts a clean shiny groove with the lowest surface noise. Ordinarily, these styli can be used for ten hours of recording time. In addition, they may be resharpened, periodically, as many as 15 times. Used extensively in professional recording as well as by the semi-professional and the advanced amateur. Packed in plush lined, individual jewel boxes. List price, each **$6.50**

STELLITE STYLUS

Carefully machined, of a special metal alloy, these needles produce results almost as good as those obtained from the sapphires. Not as fragile as more expensive sapphire styli. Recommended for less experienced recording operators. Packed one to a protective card. List price, each **$1.75**

RECORDISC
"Special QX-5" Recording Stylus

Here is a recording stylus which presents an unbeatable combination in tonal reproduction, top performance, long life and unusual value. Made to our exacting laboratory specifications, it has a filter cutting point and recessed shank for smooth and easy cutting. Precision made of processed and tempered steel, and especially designed for those who seek a very fine but not fragile recording tip. List price, each .... **75¢**

HAND LAPPED STEEL STYLUS

Carefully hand lapped for greater fidelity. Packed one to the protective card. List price, each .... **35¢**

STEEL STYLI
(Nickel Plated Shank)

Recording life of approximately 1 hour each. Packed 4 to a card. List price, **4 for $1.00**

RECORDISC
Sapphire Phonograph Needles

Preferred by the most critical music lovers and discerning artists — for both phonograph records and recording discs. Advanced **RecorDisc** design and features result in higher fidelity, bell-like clarity, greater listening enjoyment, uniform performance throughout playing life, and less wear on the record surface. It has been acclaimed as one of the best needles available today. 7000 plays. List price **$2.50**

TRANSCRIPTION NEEDLES

Scientifically designed to fit perfectly into the grooves of recording and transcription blanks. They have a wide frequency response and unusual tonal brilliance. Wear on records reduced to minimum. 35 in envelope. List price........ **per pkg. 25¢**

RECORDISC
"Coronet" Phonograph Needles

Clear, clean, brilliant reproduction throughout each musical note. Made from precious metal alloys, with a satin-smooth, non-corrosive tip. Your ears will convince you of the superiority of these needles, and tell you why they are the choice of juke box and record changer owners. May be used on any type of phonograph—electrical or mechanical. 3000 plays. List price.... **$1.00**

RECORDISC
"Imperial" Phonograph Needles

Made to our own special formula, **RecorDisc** "Imperial" Needles provide full tonal range, less scratch and hiss, minimum needle "talk," and longer record life. Uniformly excellent in quality, these needles become an integral part of automatic record changers for which they are an especial favorite. 5000 plays. List price........ **$1.50**

ACCESSORIES

RECORD PRESERVER

This lubricant not only cleanses and preserves the fresh surface, but lubricates the groove to a degree where the improvement in tonal qualities is readily discernible to the ear. List price........ **2 oz. bot., 45¢**

SPECIAL "VOICE LETTER" ENVELOPES

This postage saver mailing envelope has been widely accepted for its low cost, protective features. List price, per thousand (6½ inch size only)........ **$30.00**

MAILING ENVELOPES

Heavy brown Kraft; lined with high test corrugated board; may be sent via Parcel Post or Express with absolute safety. Printed with provision for return address of sender.

For 6½ inch record, list price........	**each 10¢**
For 8 inch record, list price........	**each 12¢**
For 10 inch record, list price........	**each 15¢**

TURNTABLE LUBRICANT

This **RecorDisc** lubricant is recommended for smooth operation of all parts subject to friction wear. List price........ **per jar, 40¢**

GOULD-MOODY

"Black Seal"

ALUMINUM INSTANTANEOUS RECORDING BLANKS

THE GOULD MOODY CO.

For the first time in the history of recording blanks, Gould-Moody has developed a formula that will not dry out, and will be as faithful in reproduction after prolonged periods of storage as when originally cut. Head and shoulders above competition, Gould-Moody "Black Seal" blanks have such desirable advantages as engineered center thread action . . . four holes in every disc . . . continued high fidelity through long months of playbacks . . . and greater economy.

Net Prices to Broadcast Stations and Recording Studios

Black Seal Discs

10"	$ .60
12"	.75
16"	1.50

Master Discs

13¼"	$1.35
17¼"	2.25

Single Face Discs

12"	$ .60
16"	1.15

Recoating Aluminum Discs

10"	$ .60
12"	.75
16"	1.20

All aluminum discs sent for recoating must be shipped prepaid. On orders of 25 or more of one size, charges will be prepaid by us when returning them to you.

Accessories

Sapphire Stylus	$3.50
Stellite Stylus	1.25
Steel Styli (pkg. of 4)	.60
Sapphire Playback	1.75
Steel Playbacks (pkg. of 30)	.15

Resharpening Service

Sapphire Stylus	$1.50
Stellite Stylus	.50
Sapphire Playbacks	1.25

Note:

All orders shipped direct from factory, fully prepaid

All Sapphire and Stellite Styli as well as Playback Needles are supplied in standard short shank (17/32 inch) with "flat" unless LONG and/or ROUND shank are specified. When these are returned to us for resharpening, they are fully tested and inspected before re-shipment to you.

Old Aluminum Blanks recoated with "Black Seal" formula on short notice

THE GOULD-MOODY CO.
Electronic Division
395 BROADWAY NEW YORK 13, N. Y.

◆

BUY AND HOLD WAR BONDS TILL VICTORY

audiodiscs

ALUMINUM AND GLASS BASE RECORDING BLANKS

Audiodiscs are high quality, precision-made, instantaneous recording blanks which have established new standards of perfection and won the acclaim of professional and amateur recordists.

AN AUDIODISC FOR EVERY RECORDING NEED

RED LABEL AUDIODISCS exceed the professional demands of broadcasting stations, sound and movie studios where top quality and dependability are primary requirements. These discs are double-sided and are acclaimed throughout the profession as the ultimate in disc perfection.

SINGLE FACE RED LABEL AUDIODISCS bring new economy to applications requiring but one side. Both sides are coated with the recordable side identified. In quality and appearance these discs conform exactly to the double-sided type.

YELLOW LABEL AUDIODISCS, double-sided blanks of high, uniform quality, have "wide latitude" characteristics that make extra-fine adjustments, special styli, or close attention to the cutting angle unnecessary. High-fidelity, easy-to-use Yellow Label Audiodiscs are the popular choice for all general purpose recordings.

REFERENCE RECORDING AUDIODISCS permit extreme economy in making test-cuts, filing and reference recordings. Coated on both sides.

MASTER AUDIODISCS are the outstanding choice where pressings are to be made after electroplating. Professional master blanks are made in oversize diameters coated on both sides. Single-face Masters are also available.

TYPE	Size (In.)	List Price Per Disc	Box Contains
RED LABEL	8	$ .70	25
	10	1.00	25
	12	1.25	25
	16	2.50	25
YELLOW LABEL	8	.60	25
	10	.80	25
	12	1.00	25
	16	2.00	25
MASTERS	12	1.55	25
	13¼	2.25	12 or 25
	17¼	3.75	12 or 25
SINGLE FACE	10	.75	25
	12	.95	25
	16	1.75	25
	13¼	1.50	12 or 25
	17¼	2.25	12 or 25
REFERENCE	10	.58	25
	12	.70	25
	16	1.40	25

THEY SPEAK FOR THEMSELVES
AUDIODISC NEW YORK
7083
. . . they speak for themselves audiodiscs

PROPERTIES THAT MAKE FOR AUDIODISC LEADERSHIP

UNIFORM COATING

Audiodiscs' exclusive machine process produces a smooth flat coating seven thousandths of an inch thick, free from swirls, waves and "orange peel" effect. The depth of the coating is consistent within one-half thousandth of an inch.

LONGER STYLUS LIFE

The homogeneous coating is free from microscopic abrasive materials and surface imperfection which, in inferior discs, damage cutting points and cause extraneous noises in playback.

SILENT BACKGROUND

Audiodiscs, cut under good recording conditions are entirely free from audible "background scratch".

LONG PLAYBACK LIFE

With correct playing equipment an Audiodisc can be played for more than a hundred times with no noticeable increase in surface noise.

BRILLIANT FREQUENCY RESPONSE

These discs are noted for their brilliant high frequency response. Audiodiscs "speak for themselves" with quality performance that pleases the most critical recordist.

NO DETERIORATION WITH AGE

A special curing process removes from Audiodiscs the last trace of volatile constituents. Blanks made over five years ago still cut easily and play back perfectly.

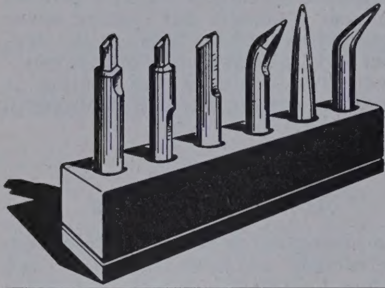
CONSISTENT QUALITY

Audiodiscs are manufactured by a unique automatic precision-machine process which assures consistent quality. This uniformity is a feature that helps engineer and amateur attain the highest degree of recording excellence.

GENERAL NOTE:

Audiodiscs are manufactured on aluminum or glass base. The extent to which aluminum base discs are available at any time depends on WPB regulations. Consult your distributor as to the current situation. **All Audiodiscs are coated with identical recording lacquer improved through many years of constant research.**

audiopoints



MICROSCOPICALLY MATCHED CUTTING AND PLAYBACK POINTS

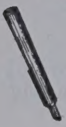
Especially Designed for Use with Audiodiscs and Other Instantaneous Recording Blanks

The quality of sound obtainable from a recording blank can be no better than the points used in its cutting and playing. Our research has established a much-needed set of cutting and playing needle standards which, if adhered to, bring out the best qualities not only of AUDIODISCS but of ALL blanks. The following data explains why AUDIOPOINTS will solve your needle problems.

AUDIO CUTTING POINTS

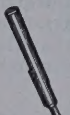
Audio Cutting Points are available in several types and materials to give full range to the recordist's needs.

SAPPHIRE



Sapphire, though brittle and requiring careful handling, makes the finest cutting point. It takes a fine polish, has a low coefficient of friction and is extremely long wearing. Though more expensive, it is, in view of its long life and the fact that it can be repeatedly sharpened, the most economical of stylus materials. It is especially recommended for professional and master-recording work.

STELLITE



Stellite, an extremely hard metal alloy, cuts a groove comparable to a sapphire. Stellite styli are low in first cost, have good wear life and can be repeatedly sharpened.

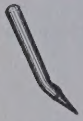
STEEL

Where first cost is a major consideration, good steel points can be used. The groove is not as silent and shiny as that obtained with a sapphire but is, for many purposes, entirely satisfactory. Steels must be changed often and cannot be economically resharpened.

AUDIO PLAYBACK POINTS

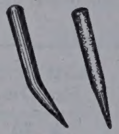
Manufactured and checked to specifications which bear a practically ideal relationship to Audio Cutting Points, Audio Playback Points are made in several types and give best playback results and longest life to all records.

SAPPHIRE



The **finest** playback needle from every standpoint is the sapphire. One sapphire AUDIO-PLAYBACK POINT will play thousands of recordings and, when finally worn, can be resharpened. Care, however, must be used in handling to prevent breakage of the brittle point, as the jagged edge of a break will seriously score the record grooves.

STEEL



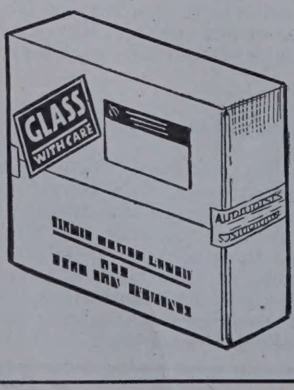
The **most practical** playback is the shadowgraphed steel needle. Steel AUDIO-PLAYBACK-POINTS will each play dozens of instantaneous recordings without damage to the grooves because they are shaped to match AUDIO-CUTTING-POINTS. They are shadowgraphed, highly polished, and wear-resistant.

Type	Description	Point Material	Shank Material	Type No.	List Price	Code Word
Cutting	Every sapphire and stellite is disc-tested for perfect cutting...	Sapphire	Dural*	14	ea. $6.25	AcorD
		Stellite	Brass*	34	ea. 1.50	AkviD
	Diamond-Lapped	Steel	Steel	50	ea. .35 dz. 3.50	AvenD
	Standard	Steel	Steel**	51	ea. .25 dz. 2.50	AfrmD
Playback.	Microscopically MATCHED to characteristics of AUDIO cutting points, checked by shadowgraph	Sapphire	Steel Alloy	113	ea. $6.50	AmorD
	Shadowgraphed for light pickups	Steel	Straight	151	100 .75	AbonD
	For heavy pickups	Steel	Bent	154	100 .60	AnicD
Resharpening Service	No delay. All resharpened stylii are disc-tested	Sapphire	Cutting	14	$2.20	AforD
		Stellite	Cutting	34	.70	AvisD
		Sapphire	Playing	113	4.00	AxioD

*Supplied in standard short shank (17/32 inch) with "flat" (unless long) and/or round shank are specified.

** Best type for home recorders with crystal cutting heads.

AUDIOPOINT PACKAGING—AUDIOPOINTS reach you in specially developed, convenient packages. Avoid sending styli in envelopes Where this must be done be sure to mark package "Hand-Stamp Only."



SAFETY CARTON

For Shipping Glass Base Audiodiscs or Shellac Pressings

COMPLETE PROTECTION

The SAFETY CARTON consists of an inner carton to contain the discs, an outer carton to contain the inner carton, and shredded lint-proof, paper cushioning material. Each carton holds from 1 to 3 AUDIODISCS. Approved by leading transportation companies, the ability of this carton to protect discs in spite of rough handling is self evident. In view of the irreplaceability of many recorded discs, shipping in a SAFETY CARTON is essential.

NET PRICES

12″ CARTONS PER DOZEN Weight per Carton 1 lb.-14 oz.	$3.10
16″ CARTONS PER DOZEN Weight per Carton 2 lbs.-10 oz.	3.60
17¼″ CARTONS PER DOZEN Weight per Carton 3 lbs.-4 oz.	5.00

A SOUND-RECORDING "MUST"

HOW TO MAKE GOOD RECORDINGS

"HOW TO MAKE GOOD RECORDINGS"

List Price $1.25

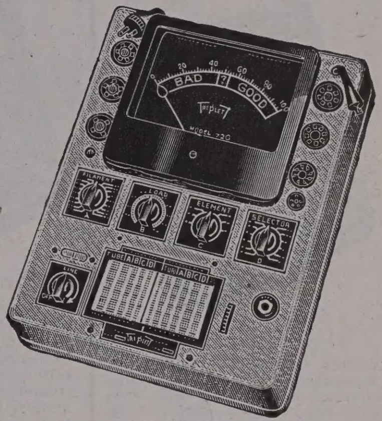
Radio TRIPLETT Testers

COUNTER OR PORTABLE TUBE TESTER—7" INSTRUMENT

This sensational new Tube Tester has a large six-inch scale RED DOT Lifetime Guaranteed Measuring Instrument. Filament voltages are provided in 20 steps from 1 to 110 and transformer connections are made for future tubes with voltages between these ranges. This continues Triplett's policy of providing every sensible anti-obsolescence feature, and accounts for the thousands of Triplett tube testers in use today although built four or five years ago.

Model 1612 has a fully balanced RMA circuit and leakage test for Cathode and Heater and inner elements, with shorts test between any two elements, check for open filaments, and any two elements, hot leakage check, separate section test of multi-section tubes; separate plate tests of diodes and rectifiers. Other features are the noise test jack, and a separate line voltage meter, essential for settings while tube readings are taken. Tests for receiving tubes including Miniatures, Loctals, Bantam Single Ends, Bantam Jr., new high voltage 117Z6, etc., gaseous rectifiers and ballast tubes. The customer reads the same tests on the GOOD-BAD scale of the oversize instrument. A handy loose leaf indexed card tube chart is fastened to the front of the tester by means of a ring binder and provides latest available testing data on tubes named. Has streamlined, beautifully finished seamless heavy steel case and panel with silver grey suede baked enamel finish and maroon and chrome fittings. Size is 15¼" x 11¾" x 5".

Model 1612—Code TALOA—**Dealer Net Price**..........$32.83



Model 1612

Model 1613—Portable Style

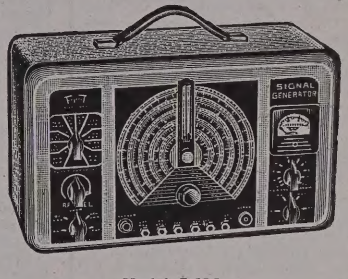
Model 1613 is a portable tester, same as the Model 1612, but has a detachable cover with attached handle. Cover is removable permitting use as a counter tester. Case size with cover, 15½" x 11¾" x 6½".

Model 1613—Portable Tester. Code TASSE. **Dealer Net Price**..........$38.32

WIDE-RANGE SIGNAL GENERATOR — MODEL 1632

Model 1632 wide-range Signal Generator provides continuous coverage of standard broadcast ranges; as well as the new high frequencies for frequency modulated and television receivers. **CONTINUOUS FREQUENCY COVERAGE** from 100 Kc. to 120 Mc. on 10 bands . . . All frequencies fundamentals. **METERED OUTPUT** to multiplier and attenuator. **HETERODYNE DETECTOR** is incorporated. Permits checking the oscillator, or beating with another oscillator, without a receiver. **OUTPUT AVAILABLE AT END OF CO-AXIAL CABLE.** Minimizes losses and disturbance to circuit under test. **PROVISION FOR EXTERNAL MODULATION** at audio or radio frequencies. **VOLTAGE REGULATOR TUBE** . . . regulates voltage for the oscillator. Improves stability. **PERMEABILITY ADJUSTMENT AND TUBULAR AIR-TRIMMER CAPACITORS** are used throughout for increased accuracy and stability of calibration. **LOW RESISTANCE COPPER SHIELDING** and low-loss construction. Coil and trimmer assemblies and condensers shielded to minimize radiation of the unmodulated radio frequencies. **POSITIVE VERNIER DIAL TUNING** control . . . no backlash. **ACCURACY AND STABILITY** beyond anything before demanded in the test field. **STREAMLINED METAL CASE** with attractive rolled-edge design. Size is 15" x 9" x 6¾". Black enamel finish. Snap-away leather handle. Beautiful black panel, with red and white markings. Model 1632. Complete with accessories. A.C. operated. Code—TACIX

Dealer Net Price..........$87.83

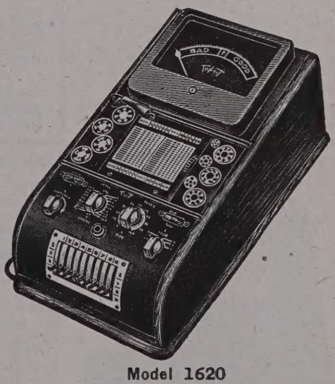


Model 1632

FLEXIBLE TUBE TESTER—MODEL 1620

This sensational Triplett counter model has every facility desired including a new highly flexible switching system . . . unsurpassed beauty and customer appeal. . . . Individual connections for each tube element as well as a spare socket. Four separate sections (socket, meter, chart, switching and power supply) can be entirely replaced . . . for simplicity in modernization. **FLEXIBLE SWITCHING**, new lever-type, gives individual control for each tube prong. This also takes care of roaming elements, dual cathode structures, multi-purpose tubes, etc. Simply set the switch according to instructions appearing above each lever on the loose leaf indexed card chart. Only three lever switch settings required for most tubes. **CONCLUSIVE TESTS** of present receiving tubes. Tests Gaseous Rectifier tubes and has improved Ballast Tube continuity test. Noise test jack incorporated. Fully balanced RMA approved circuit. **FILAMENT VOLTAGE SWITCHING** from 1.1 to 110 to take care of present and future tubes with filament voltage up to 117 volt types. **NEON SHORT TEST.** Separate plate tests on diodes and rectifiers. **SEPARATE LINE VOLTAGE METER** permits constant observation and adjustment for line fluctuation. **RED • DOT LIFETIME GUARANTEED 7"** indicating instrument has long 6" Direct Reading GOOD-BAD scale in colors. The wood case is of graceful proportions with ebony finish. Socket and switching panels are sloping with ebony background, sockets, knobs and white markings. Case size is 18½" x 10¾" x 6¾".

Model 1620—For 60 cycles, 110 volts. **Dealer Net Price**..........$41.67



Model 1620

PORTABLE TUBE TESTER—MODEL 1621

Model 1621 is a counter or portable Tube Tester similar to Model 1620 described above. It comes in a smaller more readily portable case. Has 4" square RED • DOT Lifetime Guaranteed Indicating Instrument with GOOD-BAD scale. Otherwise features are the same as Model 1620.

Model 1621, for counter use only, less carrying case. Size 12½" x 7" x 10".

Dealer Net Price..........$38.33

Carrying Case

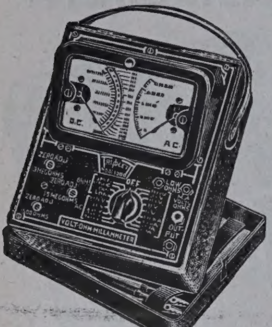
Snappy two-tone tan tweed airplane type case. Purple plush lining. Heavy rubber feet on bottom of tester fit in holes in case to hold it in place.

Dealer Net Price..........$5.50

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO SUBSTITUTION

Radio TRIPLETT Testers

VOLT-OHM-MILLIAMMETERS



Model 1200-E

25,000 OHMS PER VOLT D.C. measurements and resistance readings to 40 megohms with this new super sensitive Volt-Ohm - Milliammeter. Instrument reads D.C.: 10-50-250-500-1000 volts at 25,000 ohms per volt; 0-50 microamperes; 1-10-50-250 milliamperes and 1000; 40,000 ohms, 4 and 40 megohms; A.C. 10-50-250-500-1000 volts.

Has two RED DOT Lifetime guaranteed instruments, A.C. and D.C., in twin case. Switch contact error less than ½% on milliamperes. No error on voltages. Resistance measurements have individual zero adjustments. Selector switch for all readings. Contains 22½ and 1½ volt batteries. Shpg. wt. 7¼ lbs.

1200-E Unit— Code—TWARB
Dealer Net Price..............$28.83

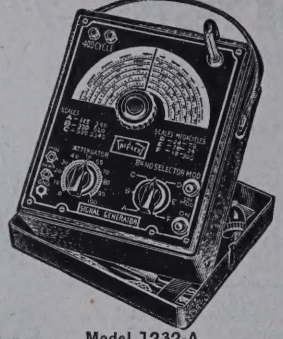
Model 1200-A—Same as 1200E but reads as follows: D.C. 10-50-250-500-1000 volts at 2000 ohms per volt; 1-10-50-250 M.A. low ohms, backup circuit, 500; 1500 ohms, 1½ and3 megohms. A.C. 10-50-250-500-1000 volts. Shpg. wt. 7¼ lbs.

1200-A Unit— Code—TRITE
Dealer Net Price..............$24.33

Model 1200-C—Same as 1200-A but with 5000 ohms per volt D.C. suitable for AVC checking; 250 microamperes, and 7½ megohms scales. Shpg. wt. 7¼ lbs.

1200-C Unit— Code—TRFFA
Dealer Net Price..............$25.50

SIGNAL GENERATORS



Model 1232-A

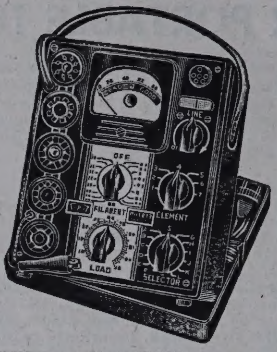
New improvements in these Signal Generators answer the demands for reasonably priced service instruments with performance approaching that of precision laboratory equipment. Model 1232-A is for 110 volts, 60 cycles operation. Its features include: **Triple Shielding**—A new assurance of satisfaction. Top panel is insulated from R.F. Main wiring is beneath double shielded panel. Coils and the band switch are individually shielded. **Improved Attenuation** Zero for all practical purposes. **Large Dial Opening 180°**—Improves readability. Scale is 345°. Dial is direct geared, permitting quick and accurate settings. **Six Bands** cover frequencies from 115 KC to 30.5 MC. All frequencies are fundamental. **Line Filter**—Filters RF between oscillator and the line. **Six Trimmer Calibrated Coils**—For accuracy well within servicing requirements on all bands. **400 Cycle Audio Note**—obtained from panel jacks. **Improved Band Selector Switch**—for added convenience. Low loss switching. All parts low capacity. **Model 1232-A** (A.C. Operated). Complete with accessories. Code—TAPET. Shpg. wt. 10½ lbs.

Dealer Net Price..............$33.17

Model 1231-A—Same as 1232-A but battery operated. Uses standard Eveready 22½ V (X-163) Burgess (A-15-ST) and three flashlight cells (Eveready 935). Replacements may be readily obtained. Complete with batteries and accessories. Code—TARDI. Shpg. wt. 11 lbs.

Dealer Net Price..............$30.67

TUBE TESTER



Model 1213

Checks all receiving tubes quickly and conclusively including Loctal, Miniature, Bantam Jr., high voltage 117Z6, etc., gaseous rectifier types and ballast tubes. Provision for future tubes, with filament voltages ranging from 1 to 110. Has fully balanced RMA approved circuit. Separate plate tests on diodes and rectifiers. Neon shorts test shows slightest inter-element shorts and leakages. Results show directly on the three-color GOOD-BAD scale of the RED DOT guaranteed instrument. Separate line voltage control meter, essential for making adjustments while testing. Attached under spring clips in cover, or can be removed and fastened on wall.See case description below.

Model 1213—Code—TAMOT. Shpg. wt. 14 lbs.

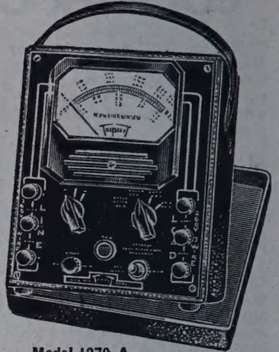
Dealer Net Price..............$24.50

1200 SERIES CASES

1200 Series Cases are metal with black suede baked enamel finish, 7⅞" x 6⅝" x 6⅝". Attached leather strap handle. Modernistic durable panels.

APPLIANCE TESTER

(For Watts, Volts, Amperes)



Model 1270-A

Measures the wattage consuption, amperes and line voltage of all household appliances and small motors under actual operating conditions. Testing facilities are: **Six Wattmeter Scales** 0-20-40-500-1000-2000-4000 at 130 or 260 volts (4000 scale is most essential for modern range testing). **Alternating Current Scales** A.C. amperes 0-.26; 0-6.5; 0-13; 0-26. **Two A.C. Voltage Scales** 0-130-260. All switches and leads are ample to carry full load current continuously. See Page F-3 for Case description. **Model 1270-A**—Complete with Leads for Two-Wire Circuits.

Dealer Net Price............$33.17
3-wire male connector cable... 4.50
3-wire female connector cable. 4.50

DUAL-INSTRUMENT APPLIANCE TESTERS

Model 2000—Provides quick and accurate means of testing power consumption of radios, refrigerators, fractional horsepower motors and household appliances under actual running conditions. Wattmeter readings 1500 watts at 220 volts; 750 watts at 110 volts. Current rating 7.5 amperes. Dual voltmeter scale reads 130-260. Leather case 6½" x 4½" x 3¼".

Dealer Net Price............$21.33

Model 2001—Same as Model 2000 but has additional switch to permit use with any current transformer having a 5 amp. secondary, for higher single phase wattmeter readings.

Dealer Net Price............$22.67

Model 2002—Same as the 2000 but has current rating of 10 amperes. Wattmeter ranges are 1500 and 3000. Voltage ranges are 130 and 260.

Dealer Net Price............$21.67

TELEVISION AND HIGH VOLTAGE TESTER

CAUTION
GND
DISCONNECT BEFORE ADJUSTING ZERO
TELEVISION TESTER

Model 1280

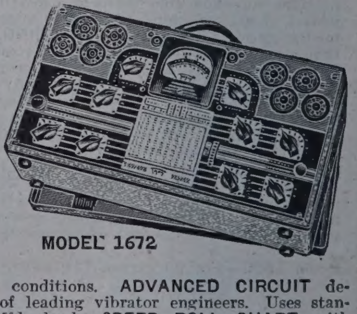
Ranges to 10,000 volts. Metal contacts and instrument parts are removed a minimum of one inch from the sides of the case. Prods attached to test leads are inserted through holes in the top panel to the contacts in the sub-panel beneath. Test leads, three feet long, tested to 25,000 volts breakdown, are used. Posts are provided on the panel for grounding the metal case, the surest precaution against bodily injury at the high voltage.

Tests A.C. and D.C. volts in steps of 2500 and 10,000 volts; D.C. Microamperes in steps of 50, 500 and 5000. Meter sensitivity is 25,000 ohms per volt for D.C., and 5000 ohms per volt for A.C.

This tester is equipped with the RED DOT Lifetime guaran'eed 4" instrument in bakelite case, which is also mounted beneath the front panel, and is easily read through the large window opening in the panel. Accessories include a pair of special high-tension cables with prods on one end and alligator clips on the other end.

Model 1280—Code—TANIA. Dealer Net Price......................$34.67

FLEXIBLE VIBRATOR TESTERS



MODEL 1672

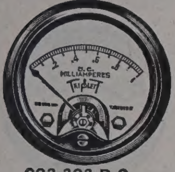
COMPLETE TESTING facilities for all standard 6-volt vibrators, as used in automotive and home battery radio receivers. **THREE-SCALE DIAL** . . . 0-10 Volts scale shows input voltage to vibrator for start or running tests . . . Two-zone, two-color merit scale shows vibrator condition as GOOD or BAD . . . 0-100 scale permits inter-comparison of vibrator output under standardized input conditions. **ADVANCED CIRCUIT** developed with cooperation of leading vibrator engineers. Uses standardized 5000 Ohms - 8-Mfd. load. **SPEED ROLL CHART** with listing of key settings. Assures quicker operation. **FUSED AGAINST SHORTED VIBRATORS. ANTI-OBSOLESCENCE DESIGN.** Included in accessories is an adapter with leads with which it is possible to check new vibrators without waiting for instructions from the factory. Individual switches for each element afford another safeguard against obsolescence. **STREAMLINED METAL CASE** with blue-gray suede electro-enamel finish; 14½" x 7⅝" x 4½". Complete with accessories.

Dealer Net Price..$32.84

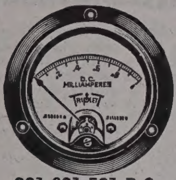
ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO SUBSTITUTION

Net

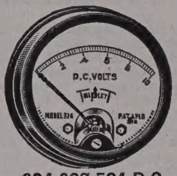
Measuring TRIPLETT Instruments



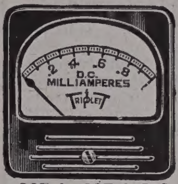
223,323-D.C.
233,333-A.C.



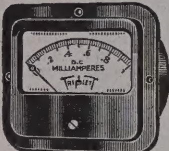
221,321,521-D.C.
231,331,531-A.C.



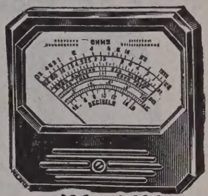
324,328,524-D.C.
334,338,534-A.C.



227-A, 327-A D.C.
237-A, 337-A A.C.



326,421-D.C.
336,421-A.C.



426 and 436

TRIPLETT D.C. INSTRUMENTS are the D'Arsonval type with extra light-weight moving coil, magnets of chrome, cobalt or alnico with uniform pole pieces and scales with maximum linearity. **A.C. INSTRUMENTS** are the moving iron repulsion type, air damped, with extra light weight moving parts. Dynamometer type also available is a most efficient standard design.

All with two of the best jewel bearings, metal bar bridge, finest workmanship and processed in a most modern equipped factory. White enameled metal dials, molded zero adjusters. Easiest serviced instruments of any in case of accidental damage. Front and rear illumination also available. Write for information.

Model No.		Code					Body	Scale Length		
D. C.	A. C.	D. C.	A. C.	Body	Flange	Depth	Type Case	D. C.	A. C.	Case
221	231	THROW	THRAM	2 5/32″ diam.	2⅝″ diam.	1⅜″	Flush	1.72″	1.54″	Molded
223	233	TOAST	TRUCE	2 3/32″ diam.	2 5/16″ diam.	1¼″	Clamp-on	1.72″	1.54″	Metal
227-A	237-A	TAZZZ	TENKA	2 5/32″ diam.	2⅜″ x 2⅜″	1⅜″	Flush	1.72″	1.54″	Molded—Inserts in Rear
323	333	TACIT	TOBIT	2¾″ diam.	3 3/16″ diam.	1¼″	Clamp-on	2.37″	2.14″	Metal
321	331	TRIPE	TROUT	2¾″ diam.	3 3/16″ diam.	1⅜″	Flush	2.49″	2.14″	Molded or Metal
324	334	TIGER	TROWL	2¾″ diam.	3 1/16″ diam.	1⅝″	Projection	2.37″	2.14″	Metal Case—Molded Base.
326	336	TRZAZ	TRUUI	2⅛″ diam.	3⅛″ x 2 15/16″	1 1/32″	Flush	2.37″	2.14″	Molded
326-A	336-A	TRJFM	TROME	2 3/16″ diam.	2 21/32″ x 2 27/64″	1 1/32″	Flush	2.37″	2.14″	Molded—Square Type (not shown)
327-A	337-A	TEPAT	TEPIK	2¾″ diam.	3″ x 3″	1⅜″	Flush	2.49″	2.14″	Molded—Inserts in Rear
421	431	TOOTH	TRINE	2¾″ diam.	4¼″ x 4″	1 15/16″	Flush	3.12″	2.88″	Molded
521	531	TREES	TRIMS	4⅜″ diam.	5¼″ diam.	1½″	Flush	3.12″	2.88″	Molded
524	534	TALOS	TUTOR	4⅜″ diam.	4¾″ diam.	1⅝″	Projection	3.12″	2.88″	Molded
529-A	539-A	TATOM		2¾″ diam	4 7/16″ x 3″	15/16″	Flush	3.12″	2.88″	Molded—Fan Type
726	736	TABAM	THACK	3½″ diam.	7 17/32″ x 6 29/32″	15/16″	Semi-Flush	6″	5.75″	Molded—Inserts in Rear (not shcwn)
TWIN	TWIN	(See page F-4)		4⅞″ x 2⅞″	5½″ x 3⅝″	1⅝″	Flush			Molded

D. C. VOLTMETERS—125 OHMS PER VOLT

Range	Code	Mods. 221 222-223-227-A	Mods. 321-322 323-324-327-A	Models 326-326-A	Mods. 421 422-426-529-A	Models 521-524	Model 626	Model 726
0–5	TRCXC	$3.30	$4.25		$5.50	$6.07	$6.97	
0–10	TRDWD	3.30	4.25	$4.25	5.50	6.07	6.97	$11.20
0–15	TREVE	3.30	4.25					11.20
0–25	TRFUF	3.30	4.25				6.97	
0–50	TRGTG	3.30	4.25		5.50	6.07		11.20
0–100	TRHSH	3.30	4.25		5.50	6.07		
0–150	TRIRI	3.30	4.25	4.25	5.50	6.07	6.97	11.20
0–300	TRLOL	4.77	6.07	6.07	7.17	8.80	9.17	13.93
0–500	TRMNM	5.66	6.80		8.07			
0–2000	TRPKP	19.43	20.53		21.83			

D. C. VOLTMETERS—1000 OHMS PER VOLT

0–10	TAIGA	$4.77	$6.07	$6.07	$7.17	$8.63	$9.17	$13.77
0–150	TAINE	5.66	6.43	6.43	7.33	9.37	9.53	14.50
0–300	TRULL	6.43	7.33	7.33	8.43	10.47	10.63	15.60
0–500	TUBAL	7.33	8.07		9.37			
0–1000	TURIN	17.23	18.53		20.37			

D. C. MILLIAMMETERS

Range	Approx. Res.	Code							
0–1	55	TRAAN	$4.25	$5.13	$5.13	$6.60	$7.33	$8.43	$12.47
0–15	6.6	TRFFS	3.30	4.25					
0–25	4	TRGGT	3.30	4.25	4.35	5.50	6.07	6.97	11.20
0–50	2	TRHHU	3.30	4.25	4.35	5.50	6.07	6.97	11.20
0–100	1	TRJJW	3.30	4.25	4.35	5.50	6.07	6.97	11.20
0–150	.6	TRKKX	3.30	4.25	4.35	5.50	6.07	6.97	11.20
0–200	.5	TRLLY	3.30	4.25	4.35	5.50	6.07	6.97	11.20
0–250	.4	TRMMZ	3.30	4.25	4.35	5.50	6.07	6.97	11.20
0–300	.33	TRNNA	3.30	4.25	4.35	5.50		6.97	
0–500	.2	TROOB	3.30	4.25	4.35	5.50	6.07	6.97	

D. C. MICROAMMETERS

0–50	2100	TALBE	$14.67	$15.67		$16.67	$17.23	$19.63	$22.57
0–100	900	TRABA	13.00	14.00	$14.00	15.00	15.70	18.17	20.90
0–200	360	TARDY	7.70	8.80	8.80	10.27	10.63	13.03	15.77
0–500	156	TWIRL	5.66	6.80	6.80	7.90	8.63	10.10	13.77

D. C. AMMETERS

0–1	.05	TALUS	$3.30	$4.25		$5.50	$6.07	$6.97	$11.20
0–10	.005	TROCX	3.30	4.25	$4.25	5.50	6.07	6.97	11.20
0–25	.002	TANGS	3.30	4.25	4.25	5.50	6.07	6.97	11.20
30–0–30	.0016	TAPIR	3.30	4.25					

A. C. VOLTMETERS

Range	Approx. Ohms per V.	Code	Mods. 231 232-233-237-A	Mods. 331-332 333-334-337-A	Mods. 336 336-A	Mods. 431-432 436-539-539-A	Mods. 531 534	Model 636	Model 736
0–5	1C	TERSE	$3.30	$4.25	$4.25	$5.50	$6.07	$6.97	$11.20
0–10	16	TRUMP	3.30	4.25	4.25	5.50	6.07	6.97	11.20
0–15	16	TURCO	3.30	4.25	4.25	5.50	6.07	6.97	11.20
0–150	125	TOYTE	4.25	5.13	5.13	6.60	11.00	12.65	17.80
0–300	150	TWEAK	5.33	6.07	6.07	7.17	17.35	13.75	25.05

A. C. AMMETERS

Range	Approx. Res.	Code							
0–3	.02	TULIP	$3.30	$4.25		$5.50	$6.07	$6.97	
0–5	.01	TEUCH	3.30	4.25	$4.25	5.50	6.07	6.97	$11.20
0–10	.005	TEHEE	3.30	4.25	4.25	5.50	6.07	6.97	11.20
0–25	.001	TELEO	4.25	5.13	5.13	6.60	7.33	8.43	12.47

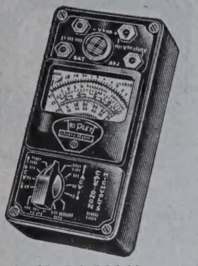
A. C. MILLIAMMETERS

0–10	2100	TEETH	$4.03	$4.97		$7.33	$8.07		
0–15	1150	TOUSY	3.30	4.25					
0–50	82	TEMPT	3.30	4.25		5.50	$6.07		
0–100	21	THARM	3.30	4.25	$4.25	5.50	6.07	$6.97	$11.20
0–200	6.7	TRFFT	3.30	4.25	4.25	5.50	6.07	6.97	11.20
0–500	.8	THEOS	3.30	4.25	4.25	5.50	6.07	6.97	11.20

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO SUBSTITUTION

Measuring TRIPLETT Instruments

A.C.-D.C. POCKET VOLT-OHM-MILLIAMMETER


Model 666-H

Just the instrument for A.C.-D.C. voltage, direct current and resistance analyses. This handy Pocket Volt-Ohm-Milliammeter reads to 5000 volts without external multipliers. Has selector switch for all instrument readings. Molded case and panel, completely insulated. A.C.-D.C. Voltage at 1000 ohms per volt 0-10-50-250-1000-5000; D.C. Milliamperes 0-10-100-500; Resistance—0-300 ohms (shunt type circuit) 10 ohms reading at center scale; 0-250,000 ohms (series type) 3700 ohms at center scale. Higher resistance measurements are available by using external batteries. Black molded panel and case, completely insulated. Handy pocket size 3$\frac{1}{16}$x5⅞x2⅛" deep. Complete with self-contained battery and special test leads with pee wee clips.

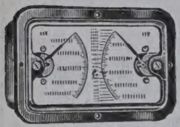
Model 666-H—Code—TRAIB. Dealer Net Price......................$16.00

MODEL 666

Model 666 Pocket Volt-Ohm-Milliammeter is the same as Model 666-H but has the following ranges: A.C.-D.C. Volts 0-10-50-250-500-1000 at 1000 ohms per volt; 0-1-10-50-250 D.C. M.A.: Low Ohms ½ to 300; High Ohms to 250,000. Shpg. wt. 4 lbs.

Model 666—Code—TRYMA. Dealer Net Price........................$15.34

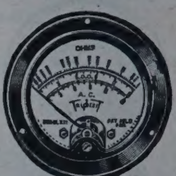
TWIN INSTRUMENTS



THE TWIN is furnished in any combination of A.C. or D.C. instruments. Both are included in the special rectangular molded case that requires a minimum of space. Permits simultaneous readings on both instruments when connected in the same or separate circuits. Instrument scales are side by side making possible two distinct readings at a glance. Used to balance loads in three-wire circuits; detect line fluctuations when load readings are taken; measure antenna and modulation current; determine filament and plate voltages and similar applications.

To determine Net Price of Twin Instruments take the sum total net price of both instruments as supplied in Models 321 or 331.

WATTMETERS—DYNAMOMETER TYPE



Outstanding new developments assure extreme ruggedness and accuracy within 2 per cent. The instruments can be used on single phase A.C. or D.C. as wattmeters. On special order they can be made up as voltmeters or ammeters. Instruments are self-contained to 300 Volts—10 Amperes. Over that external connection can be made. For use on frequencies up to 133 cycles per second. Dynamometers are available in cases to match current Triplett three-inch models: Models 361 (331) and 367-A (337-A). Case dimensions are the same except for depth, the dynamometer case being 2" back of the flange. (2-15/16" over the studs.) Wattmeters can be combined in the Triplett twin case with a voltmeter or ammeter. Available later in larger models.

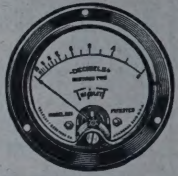
Standard ranges as folows:

Code	Range Watts	Volt Limit	Amp. Limit	Sc. Div.	Net Price	Code	Range Watts	Volt Limit	Amp. Limit	Sc. Div.	Net Price
TABEW	75	150	½	75	$11.57	THOAC	150	300	½	75	$12.30
TAMMA	150	150	1	75	11.57	THRON	300	300	1	60	12.30
TAWAB	300	150	2	60	11.57	TIABA	600	300	2	60	12.30
TEPEG	750	150	5	75	11.57	TIMAB	1500	300	5	75	13.40
THEAN	1500	150	10	75	12.83	TOBUD	3000	300	10	60	14.50

DOUBLE RANGE WATTMETERS (Double Voltage Limits Only)

TAABO	75-150	150-300	.75	75	$15.03
TACAB	150-300	150-300	1.5	60	15.03
TAFBO	300-600	150-300	3	60	15.03
TAHOE	750-1500	150-300	7.5	75	15.03
TALDO	1500-3000	150-300	15	60	17.97

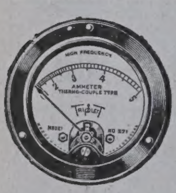
POWER LEVEL INDICATORS



Used to measure sound or noise levels in amplifiers for Public Address, Theatres, Broadcasting Studios, Broadcasting Station Equipment, etc. The Decibel Meter permits the operator to make instant adjustments to prevent sound blasting or distortion. Furnished in two ways—either standard or highly damped. Standard range furnished reads up 6 and down 10 decibels, zero decibel at 1.73 volts, 500 ohm lines, 6 milliwatts. Standard damping furnished, unless highly damped is specified. Other ranges to order only.

	Dealer Net Price
Model 421—Up 6 down 10 Decibel Meter. Code—TROOP............	$14.50
Model 321—Up 6 down 10 Decibel Meter. Code—TAINT.............	8.63

THERMO AMMETERS ‡ High Frequency. Accuracy 2%



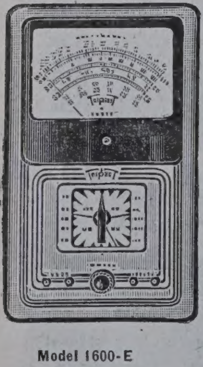
Triplett Thermo Ammeters are supplied in Models 241, 341, 346, 441 and 541. These models correspond in size, etc., to corresponding D.C. models. All have molded cases. Have external couples which withstand 50% overload connected to meter with 2 ft. leads. Couples are easily replaced when necessary. Internal couples to order.

External Couples only, for any Model...**List Price $4.00**

	Approx.	Model 241		Model 341		Model 346		Model 441		Model 541	
Range	Res.	Code	Net	Code	Net	Code	Net	Code	Net	Code	Net
0-1 Amps.	.35	TORUS	$6.43	TONGA	$7.33	TRUST	$7.33	TUBER	$8.63	TACHE	$9.17
0-1.5 Amps.	.21	TITHE	6.43	TIZZA	7.33	THRED	7.33	TONIC	8.63	TOTAL	9.17
0-2.5 Amps.	.13	TODDY	6.43	TESTA	7.33	TWILL	7.33	TONUS	8.63	THANK	9.17
0-5 Amps.	.06	TOLYL	6.43	TOUGH	7.33	TWIST	7.33	THEOR	8.63	TOUCH	9.17

Three-Inch Models (341-346-347-A) with internal couples in any standard range. ....**Dealer Net Price, each $4.97**

ULTRA-SENSITIVE V-O-MA.


Model 1600-E

A new impressive tester with 25,000 Oms per Volt D. C. sensitivity. Furnished in two styles—for panel mounting, or portable use. **D. C. VOLTS** 0-10-50-250-1000 at 25,000 Ohms per Volt. **A. C. VOLTS** 0-10-50-250-1000 at 1000 Ohms per Volt. **DIRECT CURRENT** 0-50 Microamperes; 0-1-10-50-250-500 Milliamperes. **RESISTANCE** ½ to 500, Low Ohms, shunt type circuit; 20,000 and 200,000 Ohms; and 2 and 20 Megohms, series type circuit. **RED ● DOT LIFETIME GUARANTEED** 7" Instrument. **STREAMLINED CASE** is maroon and the panel is ivory with maroon trim. Size is 15" x 9" x 4". Model 1600-E, complete with batteries for all but 20 megohm range, and accessories, in case.

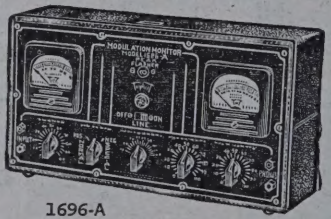
Dealer Net Price..........................$28.00

SENSITIVE RELAYS

Highly sensitive Triplett relays are of the D'Arsonval Moving Coil type, carefully designed to give dependable, satisfactory performance. Fixed contacts of instruments are set in adjustable screws, allowing a wide adjustment of upper and lower limits of contact. Contacts furnished are hardy metal; also platinum, silver, and platinum-iridium are supplied according to applied current and voltages. These relays are generally used in connection with polarized relays when current draw exceeds 50 M.A. Magnetic clutch type with manual release can also be had.

Since relays cover such a wide field and most of them are made to special order, no standard models are listed. Each application should be accompanied with information specifying maximum and minimum currents and voltages which will pass through relay coil and contact points.

MODULATION MONITOR



1696-A

Model 1696-A is easy to use. Plug it into your A. C. line—make simple coupling to the transmitter output and the monitor shows: **FIRST**—CARRIER REFERENCE LEVEL (only one adjustment for operating calibration.) **SECOND**—PER CENT OF MODULATION on specially designed high speed meter (Fast Upswing of meter pointer; Slow Downstroke.) **THIRD** — INSTANTANEOUS NEON FLASHER (no inertia) indicates when per cent of modulation has exceeded your predetermined setting. Setting can be from 40 to 120 per cent. Peaks of very short duration are instantly detected. Balance control permits interchangeability of tubes. Maximum efficiency from 100 to 130 volts, 50 to 60 cycle A. C. line. Use of the Monitor assists in complying with FCC regulations. Convenient switch permits reading of positive or negative peaks. Two RED ● DOT Lifetime Guaranteed Triplett instruments. Modernistic metal case, 14½" x 7⅝" x 4½", with black suede electro enamel finish. Black and white panel. Blends with standard amateur equipment in appearance.

Model 1696A—Amateur's Net Price......................................$38.34

FOR RACK PANEL MOUNTING

Also available as a rack panel mounting unit. The monitor is mounted in a heavy steel panel, 19" x 10½", with black wrinkle finish.

Amateur's Net Price..$39.80

We also distribute a complete line of TRIPLETT Multipliers, Shunts, Ring Shunt Assemblies, Multi-Deck Selector Switches and Bar Knobs.

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO SUBSTITUTION

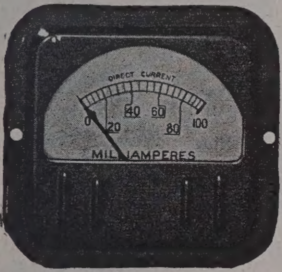
STERLING PANEL METERS

AMMETERS, VOLTMETERS, MILLIAMMETERS

FOR USE ON DIRECT AND ALTERNATING CURRENT

A COMPLETE MODERN LINE

These improved STERLING Panel Meters while retaining the accuracy, beauty and ruggedness which have always characterized STERLING instruments, show a modern trend in the gracefully unique arrangement of the broader and more clearly defined scales. The meters for alternating current and direct current are perfectly matched and therefore suitable for mounting on the same panel. Both the A.C. and D.C. meters are of the permanent magnet, iron vane, solenoid type. This affords positiveness of action and breadth of movement suggestive of those of the D'Arsonval type. The large needle-tipped pointers and wide clearly marked scale divisions of these panel meters make them easily read.



TYPE 68

Flush case, square flange, standard finish black enamel. Screw holes in flange for mounting.
Width flange 2⅝″
Dia. case $2\frac{1}{32}$″. Depth case ¾″

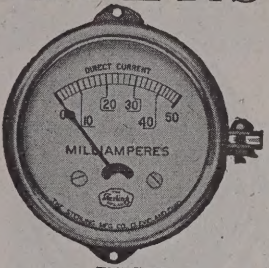
STERLING Panel Meters may be had in any of the types illustrated. The ZERO ADJUSTER can be supplied for any of the instruments listed, A.C. or D.C. but it can be applied only to those put up in the type 68, 78 or 88 case.

SPECIAL COMBINATION A.C.-D.C. METERS WITH HAIR-SPRING REPULSION TYPE MOVEMENT FITTING SAME CASES, ARE ALSO AVAILABLE.

Standard pkg., 100 meters, Ship. wt. 30 lbs.

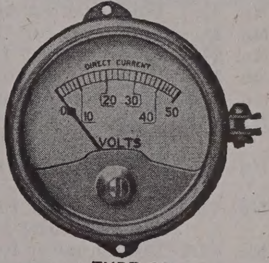
ALL STERLING Panel Meters are guaranteed accurate within 5%.

FINISHED ONLY IN BLACK



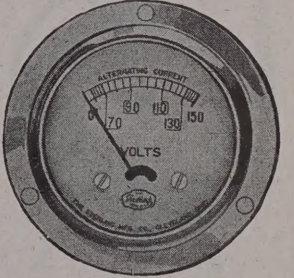
TYPE 80

Flush case, narrow flange, standard finish black enamel or nickel. Circular adjustable back clamp for mounting.
Diameter flange $2\frac{5}{32}$″
Diam. case 2″. Depth case $\frac{31}{32}$″.
Requires hole $2\frac{1}{32}$″ in Diameter
Length terminals $\frac{7}{16}$″



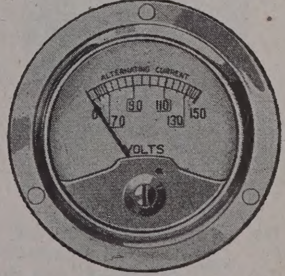
TYPE 88

Flush case, narrow apron flange, for ZERO ADJUSTER equipment. Standard finish black enamel or nickel. Circular adjustable back clamp for mounting. Same dimensions as Type 80.



TYPE 70

Flush case, wide flange, standard finish black enamel or nickel. Screw holes in flange for mounting.
Diameter flange 2⅝″
Diam. case 2″. Depth case ⅞″
Requires hole $2\frac{1}{32}$″ in Diameter



TYPE 78

Flush case, wide flange with apron designed to carry ZERO ADJUSTER equipment. Standard finish black or nickel, screw holes in flange for mounting. Same dimensions as Type 70.

Alternating Current Meters

A. C. VOLTMETERS

Number	Range	List Price
870	0-4 Volts	$2.75
871	0-6 Volts	2.75
872	0-10 Volts	2.75
873	0-15 Volts	2.75
874	0-150 Volts High Res.	4.75
875	0-300 Volts	5.75
876	0-600 Volts	6.60
877	0-750 Volts	8.50
878	0-10-140 Volts	4.75
879	0-50 Volts	3.30

A. C. MILLIAMMETERS

Number	Range	List Price
880	0-25 Milliamperes	$2.75
881	0-50 Milliamperes	2.75
882	0-100 Milliamperes	2.75
883	0-250 Milliamperes	2.75
884	0-500 Milliamperes	2.75

A. C. AMMETERS

Number	Range	List Price
886	0-1 Amperes	$2.75
887	0-3 Amperes	2.75
888	0-5 Amperes	2.75
889	0-10 Amperes	2.75
890	0-20 Amperes	3.00
891	0-50 Amperes	3.30
892	0-30 Amperes	3.00
898	0-150 A. C. Voltmeter Plug-in type	3.60

RESISTANCE METERS

Direct Reading

Number	Range	List Price
901	4.5 Volts, 10,000 Ohms 3 Flashlight cells required.	$3.00
902	2 M. A., 9 Volts, 100,000 Ohms 6 Flashlight cells required.	4.40
903	Resistor for 901 Meter	2.00
904	Resistor for 901 Meter	2.50

Direct Current Meters

D. C. VOLTMETERS

Number	Range	List Price
801	0-1 Volts	$1.25
802	0-3 Volts	1.25
803	3-0-3 Volts	1.25
804	0-5 Volts	1.25
805	0-6 Volts	1.25
806	0-8 Volts	1.25
807	0-10 Volts	1.25
808	0-15 Volts	1.25
809	0-25 Volts	1.25
810	0-25 Volts High Res.	3.00
811	0-50 Volts	1.25
812	0-50 Volts High Res.	3.60
823	0-75 Volts	1.50
813	0-100 Volts	1.65
814	0-100 Volts High Res.	3.60
815	0-150 Volts	2.00
816	0-150 Volts High Res.	3.50
817	0-300 Volts	3.50
818	0-500 Volts	5.00
819	0-750 Volts	6.00
820	0-8-160 Volts	2.50

D. C. MILLIAMMETERS

Number	Range	List Price
835	0-2 Milliamperes	$4.00
836	0-5 Milliamperes	2.50
837	0-10 Milliamperes	2.20
838	0-15 Milliamperes	1.25
839	0-25 Milliamperes	1.25
840	0-50 Milliamperes	1.25
841	0-100 Milliamperes	1.25
842	0-150 Milliamperes	1.25
843	0-200 Milliamperes	1.25
844	0-300 Milliamperes	1.25
845	0-400 Milliamperes	1.25
846	0-20-100 Milliamperes	2.20
847	0-15-150 Milliamperes	2.20
848	0-500 Milliamperes	1.25

D. C. AMMETERS

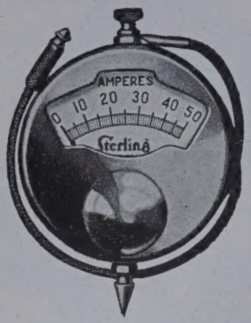
Number	Range	List Price
855	0-1 Amperes	$1.25
856	0-3 Amperes	1.25
857	0-5 Amperes	1.25
858	0-10 Amperes	1.25
859	1-0-1 Amperes	1.25
860	3-0-3 Amperes	1.25
861	6-0-6 Amperes	1.25
862	10-0-10 Amperes	1.25
863	20-0-20 Amperes	1.25
864	0-15 Amperes	1.50
865	0-30 Amperes	2.00
866	0-50 Amperes	2.20
867	30-0-30 Amperes	1.65
868	0-20 Amperes	2.20
869	0-40 Amperes	2.20

Type 68 square flange case furnished for any range of meter at an additional list price of 40 cents each. Both A. C. and D. C. meters supplied with ZERO ADJUSTER at an additional list price of 35 cents each.

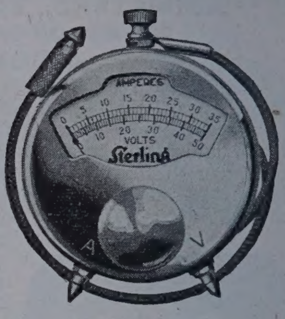
STERLING POCKET METERS

STANDARD LINE

Direct Current Pocket Ammeters, Voltmeters and Voltammeters for all Purposes



No. 24A Ammeter



No. 45 Voltammeter

STERLING Pocket Meters are useful in all kinds of battery testing, in railroad signal work, and in telephone and low-voltage electrical work generally. **They are polarity indicators.**

No. 24 Ammeter, for testing No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions. **List Price** **$1.25**

No. 24A Ammeter for testing dry cells including the heavy-duty Ignition type of cell. 0-50 ampere scale, 1 ampere divisions. ....**List Price, $1.25**

No. 23 Ammeter, for photo-flash dry batteries. 0-20 amp. scale, 1/2 amp. div............**List Price, $2.00**

No. 33 Voltmeter for ordinary single cells and "Flashlight" cells, 0-3 v. scale, 1/10 v. div. **List Pr., $1.50**

No. 34 Voltmeter for "Hot Shot" and Radio batteries. 0-10 volt scale, 1/5 volt div.......**List Price, $1.50**

No. 34A Voltmeter for 12 volt batteries. 0-16 volt scale, 1/2 volt divisions........................**List Price, $1.75**

No. 34B Voltmeter for ordinary 22½ v. radio "B" batteries. 0-30 v. scale, 1 v. divisions....**List Price, $1.75**

No. 34C Voltmeter for testing ordinary 45 v. radio "B" batteries. 0-50 v. scale, 1 v. div.....**List Price, $2.00**

No. 44 Voltammeter for "Hot Shot" and Radio batteries and No. 6 dry cells, 0-35 ampere scale, 1 ampere divisions; 0-10 volt scale, 1/5 volt divisions..**List Price, $1.75**

No. 44A Voltammeter for 12 volt batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-16 volt scale, 1/2 volt divisions..**List Price, $2.00**

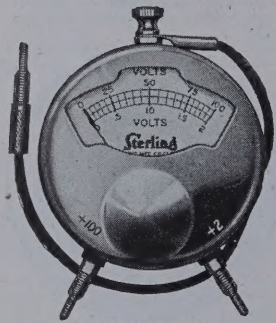
No. 45 Voltammeter for testing No. 6 dry cells and ordinary 45 volt radio "B" batteries. 0-35 ampere scale, 1 ampere divisions; 0-50 volt scale, 1 volt divisions.......................**List Price, $3.00**

No. 45A Voltammeter for testing dry cells including the heavy-duty Ignition type and ordinary 45 v. radio "B" batteries. 0-50 amp. scale, 1 amp. div.; 0-50 v. scale, 1 v. div.........**List Price, $3.25**

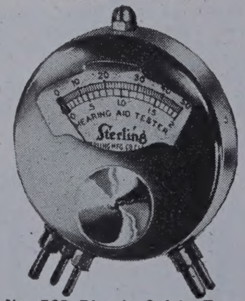
Meters 2¼" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments, ship. wt. 4 lbs.

STERLING SPECIAL-PURPOSE POCKET METERS—NEW SERIES

Testers for Portable Radio Batteries



No. 38A Voltmeter



No. 531 Plug-in Safety Type Double Voltmeter

The special "A" and "B" dry batteries built for the operation of Portable Radio sets cannot be satisfactorily tested with ordinary battery testers. The new STERLING double voltmeters are designed for testing with correct loads the special "A" and "B" dry batteries used on Portable Radio sets. The new STERLING flexible plugs of these meters fit easily into the small closely spaced socket holes.

No. 37A Voltmeter for 45 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-50 v., 1v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. "B" and 1½ v. "A" batteries ....**List Price, $2.50**

No. 38A Voltmeter for 90 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-100 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. and 90 v. "B" batteries and 1½ v. "A" batteries..........................**List Price, $2.75**

No. 39A Voltmeter for 90 v. and 135 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 90 v. and 135 v. "B" batteries and 1½ v. "A" batteries. **List Price, $2.75**

No. 40A Voltmeter for 90 v. and 135 v. "B" batteries and 4.5 v., 6 v. and 7.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-10 v., 1/5 v. div. Tests 90 v. and 135 v. "B" batteries and 4½ v., 6 v. and 7½ v. "A" batteries ....**List Price, $3.00**

No. 42A Graphic General Tester. Red and Green color chart for all standard batteries including 45 v. and 90 v. "B" batteries and 1.5 v., 4.5 v., and 7.5 v. "A" batteries. 0-100 v. scale for special sizes of "B" batteries, 5 v. div. Tests all Portable Radio batteries. **List Price, $6.00**

Testers for Hearing Aid Batteries

No. 31A Double voltmeter for special 30 or 45 v. "B" batteries and 1½ v. "A" batteries, scale 0-50 v., 1 v. div., scale 0-2 v., 1/10 v. divisions. Carefully engineered to impose the correct loads on the small delicate batteries used to operate vacuum tube hearing aids. Equipped with new STERLING flexible plugs **List Price, $3.50**

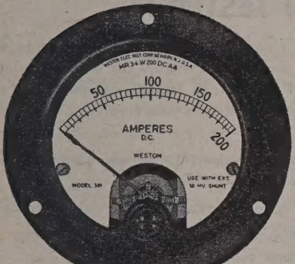
No. 531 Plug-in—Safety type double voltmeter for testing hearing aid batteries. This new tester has the same capacity and scales as the No. 31. No cord is necessary because the rigid plug-in type terminals are designed to fit hearing aid batteries having accessible keyed sockets. This arrangment makes it impossible to overload the No. 531 instrument or reverse the polarity while it is being used for testing hearing aid batteries

No. 35A Voltmeter for batteries used on carbon type hearing aids, also "C" batteries, scale 0-5 v., 1/10 v. divisions ....**List Price, $1.75**

Meters 2¼" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments, ship. wt. 4 lbs.

Weston RADIO INSTRUMENTS

PANEL INSTRUMENTS



Round Style

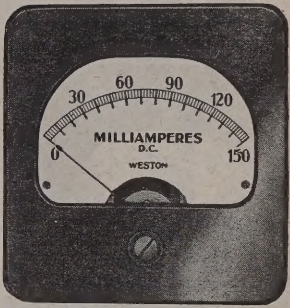
Behind this group of panel instruments is over half a century of instrument skill, and the Weston tradition of building instruments to the highest standards of dependabiliy and service.

Model 301, 425 and 476 are regularly supplied in round flush 3½'' bakelite cases, 3⅜'' bakelite, or 3¼'' metal cases with black finish. Model 476 also available in surface metal; Model 301 or 425 in surface metal or bakelite. Rectangular bakelite, flush type only are also available.

Model 506, 507 and 517 instruments are regularly supplied in round flush 2½'' bakelite cases, or flush, narrow flange, black finished metal cases, with a clamp for panel mounting. Wide flange metal cases are also available. When ordering please specify style and type of case desired.

These instruments are normally calibrated for use on non-magnetic panels. Instruments for use on magnetic panels will be adjusted for a steel panel thickness of .09'' unless otherwise requested. Instruments for use on circuits above 300 volts should be ordered in bakelite cases when it is not possible to connect in grounded side of line.

List prices shown are subject to 25% discount. For other instrument prices, write to Weston Electrical Instrument Corporation, Newark 5, New Jersey.



Rectangular Style

3½" PANEL INSTRUMENTS

MODEL 301—D-C VOLTMETERS

Approximate resistance of Model 301 in ohms per volt—1 to 40 volts, 62; 50 to 150 volts, 200; 200 volts, 250.

Range	Price	Range	Price	Range	Price
3	$9.00	15	$9.00	150	$11.25
5	9.00	30	9.00	200	13.00
8	9.00	50	9.00		
10	9.00	100	10.00		

With Resistance of 1,000 ohms per Volt

Range	Price	Range	Price	Range	Price
50	$12.00	300	$15.00	1500	$31.00
100	12.50	500	17.25	2000	34.00
200	14.00	1000	25.00*	3000	42.00

*Supplied with external resistor. Scale reading in kilovolts.

MODEL 301—D-C MILLIAMMETERS*

Range	Approx. Res. Ohms	Price	Range	Approx. Res. Ohms	Price
1	105	$10.00	30	1.2	$9.00
1.5	27	10.00	50	2.0	9.00
2	27	10.00	100	1.0	9.00
5	5.7	9.00	150	0.66	9.00
10	2.0	9.00	300	0 33	9.00
15	2.0	9.00	500	0.2	9.00

*Milliammeters with ranges above 30 MA. are shunted, and have a drop of approximately 100 MV.

MODEL 301—D-C AMMETERS*

Single Ranges: 1/1.5/5/10/15/30/50 at $9.00

*Ammeters are supplied in self-contained ranges up to 50 amperes inclusive, and have a drop of 50 MV±5%. Ranges above 50 amperes supplied with external shunts.

MODEL 301—D-C MICROAMMETERS

Range	Price	Range	Price
200	$14.25	500	$14.25

MODEL 301—RECTIFIER TYPE A-C VOLTMETERS

Range	1000 ohms per volt	2000 ohms per volt	Range	1000 ohms per volt	2000 ohms per volt
1	......	$19.25	50	$17.00	$19.75
1.5	......	19.25	100	17.50	21.50
3	$17.00	19.25	150	19.00	23.00
5	17.00	19.25	300	20.00	.....
15	17.00	19.25			

MODEL 301—RECTIFIER TYPE A-C MILLIAMMETERS

Range	Price	Range	Price
0.5	$19.25	2	$15.00
1	15.00	5	14.00

MODEL 301—RECTIFIER TYPE A-C MICROAMMETERS

Range	Price
500	$19.25

MODEL 476—A-C AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20/30/50 at $9.00

MODEL 476—A-C AMMETERS

Range	Price	Range	Price	Range	Price
5	$9.00	100	$10.00	500	$19.50
10	9.00	150	11.25	750	23.50*
30	9.00	250	14.50	1000	28.50*

*Supplied with external resistance box.

MODEL 476—A-C VOLTMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20 at $16.00

MODEL 425—THERMOCOUPLE TYPE AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20 at $16.00

2½" PANEL INSTRUMENTS

MODEL 506—D-C VOLTMETERS

Approximate resistance of Model 506 in ohms per volt: 3 to 150 volts, 125; 200 volts, 200.

Range	Price	Range	Price	Range	Price
3	$7.50	10	$7.50	100	$8.50
5	7.50	15	7.50	150	9.75
8	7.50	50	7.50		

MODEL 506—D-C AMMETERS

Single Ranges: 1/1.5/5/10/15/30/50 at $7.50

Ammeters, self-contained up to 50 amps., inclusive—drop 50 MV ±5%.

MODEL 506—D-C MILLIAMMETERS

Range	Approx. Resis.	Price	Range	Approx. Resis.	Price
1	105	$8.50	50	1	$7.50
1.5	18	8.50	100	.5	7.50
2	18	8.50	150	.33	7.50
5	9.5	7.50	300	.16	7.50
10	3.2	7.50	500	.1	7.50
15	1.5	7.50			

Milliammeters above 30 MA are shunted—drop approximately 50 MV.

MODEL 507—THERMO AMMETERS

For use on any frequency, including radio frequency

Single Ranges: 1/1.5/2/2.5/4/8/15/20 at $14.50

MODEL 517—A-C AMMETERS

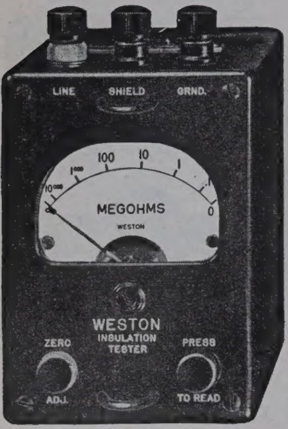
Range	Approx. Resis. in ohms	Price	Range	Approx. Resis. in ohms	Price
1	.203	$7.50	20	.0016	$7.50
3	.024	7.50	30	.0007	7.50
5	.01	7.50	50	.00057	7.50
10	.0058	7.50			

MODEL 517—A-C VOLTMETERS

Range	Approx. Ohms per Volt	Price	Range	Approx. Ohms per Volt	Price
5	10	$7.50	50	52	$7.50
10	14	7.50	130	110	9.00
15	14	7.50	150	110	9.75
25	26	7.50	250	166	13.00
			300	166	15.00

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS



Model 799

MODEL 799 INSULATION TESTER

The Model 799 insulation tester is a small compact device embodying a novel electronic circuit operating on the grid current characteristic and is an extremely sensitive resistance measuring assembly for a wide variety of purposes. High accuracy is sacrificed for a very broad coverage of from .1 to 10,000 megohms and its use is indicated where the degree of the leakage resistance is wanted rather than exact values. Less than 50 volts are applied to the resistance under test.

An ideal one hand operated instrument for leakage measurements on equipment, motors, electrical and radio components, insulating materials, etc., where breakdown voltages are not desired.

An Electrical Guard Circuit is provided for proper elimination of surface leakage when checking cables.

The vacuum tube used is the 1LH4 . . . the filament battery is 1½ volts . . . and the plate battery is 67.5 volts, all self contained. Battery life about one year under average conditions.

Accurate within ⅛'' of scale length..........Scale Length: 2.375''

Dimensions: 3-3/16'' x 5¼'' x 5'' over binding posts   Approx. Weight: 3.8 lbs.

RANGE: 0-10,000 megohms (logarithmic scale)

Price on application

MODEL 796 INSULATION TESTER

The constant check of insulation resistance has long been recognized as the most complete insurance against costly equipment failure.

This compact readily portable tester provides complete insulation and resistance tests up to 200 megohms at a test potential of 350 to 500 volts d-c. It operates from self contained, long life, light weight batteries, and there are no vibrators or tubes to replace.

The operator has the freedom of both hands, through elimination of the inconvenient hand crank generator.

Although the test potential is 500 volts at the terminals, the current is only a few microamperes. It is therefore impossible, under normal conditions, for the operator to receive any harmful shock. The Model 796 is also ideal for conductivity tests, e.g., conductive rubber safety shoes, flooring, etc.

Model 796 can also be used for general resistance measurements from 10,000 ohms to 200 megohms.

Ranges

0-20-200 megohms ....full scale

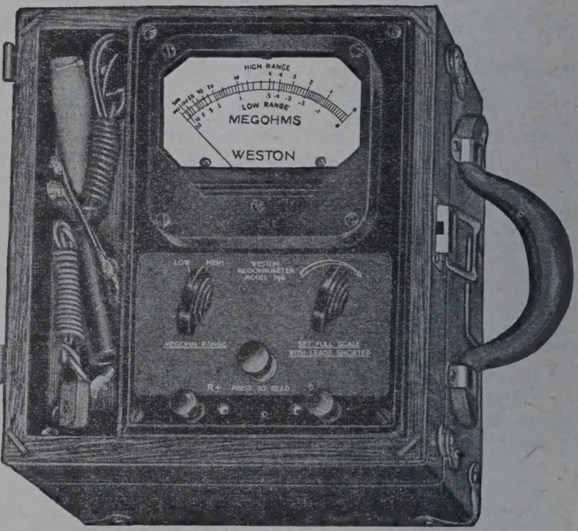
0-.5-5 megohms ....center scale

Accuracy within 2%   Scale length: 3.27''

Dimensions: 8⅜'' x 9⅛'' x 8'' deep

Approx. Weight Including Batteries: 15 lbs.

LIST PRICE, Model 796 ....$100.00



Model 796

B
AB
BA
WESTON
OHMMETER
OHMS

Model 689 Type 1F

MODEL 689 OHMMETER—TYPES 1E AND 1F

Model 689 is a very convenient pocket-sized instrument for the resistance and continuity method of checking circuits. The indicating instrument is a full sized 3¼ inch meter. A self-contained battery provides the necessary potentials for resistance readings.

Type 1E ohmmeter has a double range of 0-5,000 and 0-50,000 ohms.

Type 1F ohmmeter also has a double range of 0-10 and 0-1,000 ohms for the accurate measurement of low resistance values. This type is widely used for production and maintenance testing of armature and field resistance of small motors, relay and coil testing, transformer winding tests, and other similar applications.

Ranges

689-1E		689-1F	
Ohms		Ohms	
Full Scale	Center Scale	Full Scale	Center Scale
50,000	1,250	1,000	50
5,000	125	10	1.9

Accurate within 2%   Scale Length: 2.36''

Dimensions: 5 x 2⅞ x 1⅞''   Approx. Weight: 1 lb.

Model 689, Type 1E (including test leads)..........LIST PRICE $18.00

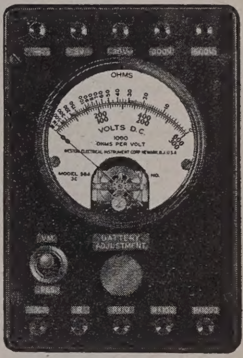
Model 689, Type 1F (including test leads)..........LIST PRICE 20.00

Leather Carrying Case..........LIST PRICE 5.50

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS

MODEL 564—VOLT-OHMMETER, TYPE 3-C


OHMS
VOLTS D.C.
1000 OHMS PER VOLT
BATTERY ADJUSTMENT

Model 564 Type 3-C

A fine, Weston quality instrument with a very useful selection of voltage and resistance ranges. A self-contained 4½ volt battery provides the necessary potential for the ohmmeter ranges. Ohmmeter adjustment compensates for changes in battery potential without any effect on meter accuracy. Ranges are available from pin jacks. A toggle switch connects meter in circuit as a voltmeter. Complete with a pair of 4 ft. test leads. Accuracy guaranteed to be within 2%.

RANGES: VOLTS, d-c, at 1,000 ohms per volt—0-3/30/300/600
OHMS (full scale)—0-1,000/10,000/100,000/1,000,000

Size: 5½" x 3¾" x 2⁹⁄₁₆" Weight: 1¾ lbs.

LIST PRICE, Model 564, Type 3-C........$38.40
LIST PRICE, Leather Carrying Case........$ 7.00

RESISTANCE OHMS
OHMS
VOLTS MILLIAMPERES
OHMMETER ADJUSTER
WESTON VOLT-OHMMETER MODEL 663
WESTON ELECTRICAL INSTRUMENT CORP. NEWARK, N.J. U.S.A.

Model 663

MODEL 663—VOLT-OHMMETER

Model 663 is exceptionally suited for radio servicing where a wide range, battery-operated ohmmeter is desired along with d-c voltage and current ranges. All ranges are rapidly selected by the rotary switch and pin jacks. The instrument requires only 50 microamperes for full scale deflection. This low current drain permits resistance measurements in critical circuits without seriously disturbing the circuit characteristics.

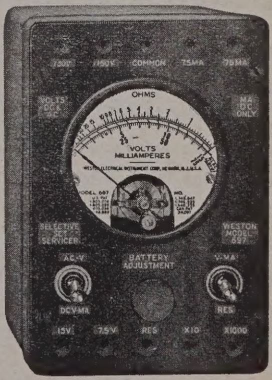
Standard self-contained batteries supply energy for resistance readings. A special ohmmeter adjustment compensates for changes in battery potential without any effect on meter accuracy.

RANGES: OHMS, (full scale) 0-200/1,000/10,000/100,000/1,000,000/10,000,000
OHMS, (center scale) 0-5/25/250/2,500/25,000/250,000
MILLIAMPERES, d-c—1/5/25/100
VOLTS, d-c—2.5/10/50/250/500/1,000

Size: 8¼" x 5½" x 3⅞" Weight: 4½ lbs.

LIST PRICE, Model 663 without carrying case........$65.50
LIST PRICE, Carrying Case........$5.50

MODEL 697—VOLT-OHM-MILLIAMMETER


COMMON
OHMS
VOLTS MILLIAMPERES
SELECTIVE SET SERVICER
BATTERY ADJUSTMENT
WESTON MODEL 697

Model 697

Very popular pocket-size device with a-c and d-c voltages, d-c milliampere and ohm ranges. Precision resistors used throughout. Accuracy has not been sacrificed for size. All ranges brought out to pin jacks. Toggle switches protect and connect the meter in the circuit as a voltmeter or ohmmeter. Self-contained 4½ volt battery supplies necessary potential for ohm ranges. Ohmmeter adjustment compensates for changes up to 25% in battery potential without affecting meter accuracy. Accuracy guaranteed to be within 2% on d-c and within 5% on a-c.

RANGES: VOLTS a-c and d-c—0-7.5/15/150/750
MILLIAMPERES, d-c only—0-7.5/75
OHMS (full scale)—5,000/500,000
OHMS (center scale)—35/3500

Size: 5⁹⁄₁₆" x 3¾" x 3⁹⁄₁₆" Weight: 1¾ lbs.

LIST PRICE, Model 697, complete with pair of test leads........$32.00
LIST PRICE, Leather Carrying Case........$ 7.00

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS

MODEL 665, TYPE 1—SELECTIVE ANALYZER

With this analyzer, a-c and d-c voltage, direct current and resistance can be measured over a total of 33 ranges—all self-contained within this one instrument. A simplified switching and pin jack arrangement facilitates rapid operation.

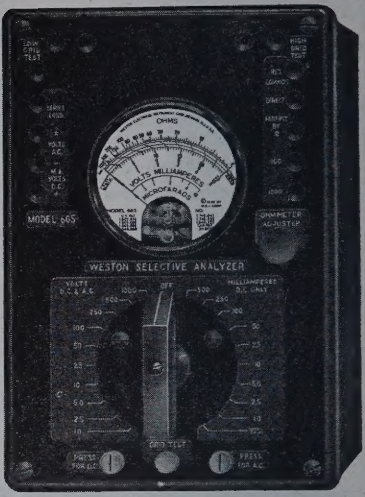
All d-c and a-c ranges have a sensitivity of 1000 ohms per volt. The accuracy of a-c readings at various frequencies and wave forms is better maintained by using the more efficient full wave rectifier. Output measurements are made through a self-contained fixed condenser.

All resistance spools are adjusted within ½ of 1%, and are non-inductive. Sustained accuracy is assured under all operating conditions.

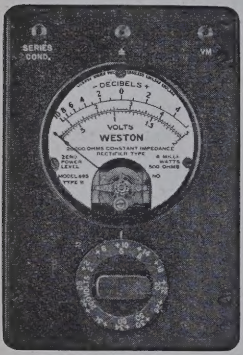
RANGES: VOLTS, ac- and d-c, (1000 ohms per volt) 1000/500/250/100/50/25/10/5/2.5/1
OHMS (full scale) 1000/10,000/100,000/1,000,000
OHMS (center scale) 25/250/2500/25,000
MILLIAMPERES, d-c only—500/250/100/50/25/10/5/2.5/1
A-c output ranges—1 to 1000 volts

Size: 5½" x 8¼" x 3⅞" Weight: 5 lbs.

LIST PICE, Model 665, Type 1 without carrying case	$78.00
LIST PRICE, Carrying Case	$ 5.50



Model 665 Type 1



Model 695 Type 11

MODEL 695—TYPE 11
POWER LEVEL METER, VOLTMETER, OUTPUT METER

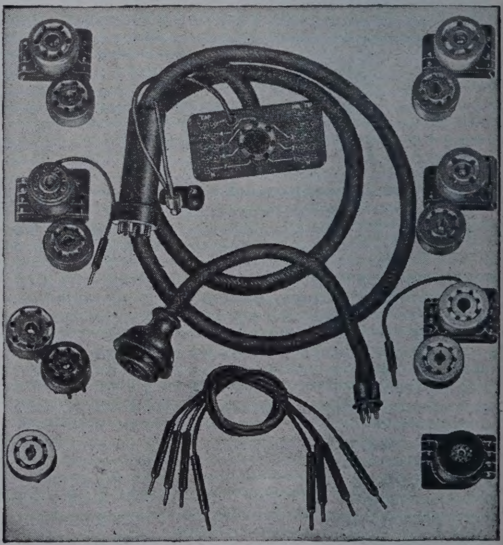
Gives readings in decibels as well as volts making it ideal for power level measurements in all types of speech equipment and radio receivers. Medium speed, moderately damped movement. Constant impedance of 20,000 ohms. 11 Db ranges from —4 to +36 Db. at zero on the Db scale. 7 voltage ranges from 2 to 200 volts. Calibrated for 500 ohm lines with zero level of 6 milliwatts (.006 watts) or 1.73 volts. Complete with pair of test leads. Accuracy guaranteed to be within 5% on rectified a-c. Size: 5½" x 3¾" x 3⅛". Weight: 1½ lbs.

LIST PRICE, Model 695, Type 11	$38.00
LIST PRICE, Leather Carrying Case	$ 7.00

SOCKET SELECTOR—MODEL 666 TYPE 1C

The selector block mounts mechanically on any analyzer by means of two pin terminals With the tester plug inserted in the radio set socket and the tube in the Selector Socket, tube circuit conditions (voltage, current, resistance) can be checked by plugging in jumper cables from the jacks on the selector block to the analyzer jacks or binding posts. The pin jacks are marked with the RMA tube base numbers. A comprehensive tube base chart is furnished. All adapters are supplied including octal, loctal and miniature types.

Model 666 Type 1C	List Price $21.10



Model 666-1C

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS

MODEL 772—TYPE 6
SUPER-SENSITIVE ANALYZER

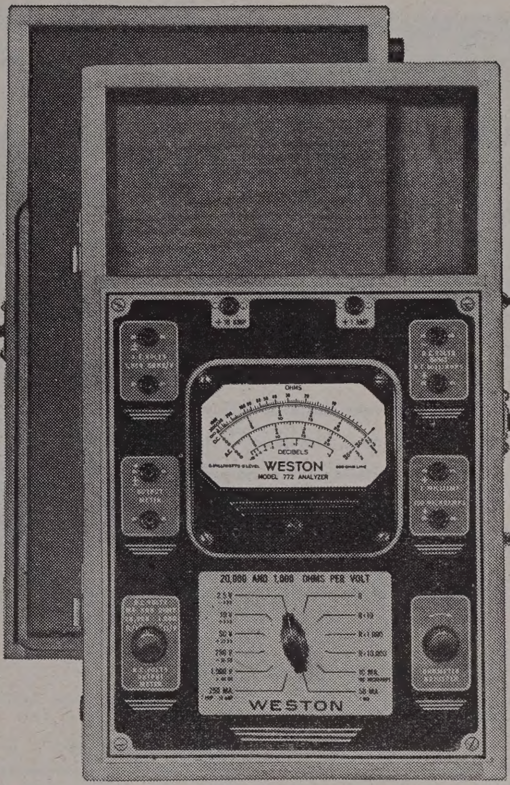
1,000 or 20,000 Ohms per Volt

The most complete super-sensitive analyzer on the market today, Model 772 type 6 provides d-c voltage ranges at a sensitivity of either 1000 or 20,000 ohms per volt. Addition of new Weston Model 766 Televerter gives top d-c voltage range of 5000 volts. Services television and radio transmitters and receivers, P.A. systems, vacuum tube and cathode ray equipment, sensitive telephone and telegraph relay circuits and can readily be used for industrial and household appliance testing.

Model 766 Televerter is a carefully designed high resistance (100 megohms) multiplier which fits conveniently into the tool compartment of the analyzer. Specially insulated test prods for protection of operator. Breakdown voltage of 17,000 volts in accordance with A.I.E.E. safety standards. Present owners of Model 772's can adapt the Televerter to the instrument at small extra cost.

Measurements of plate voltage and current on amateur transmitters, as required by the F.C.C., can easily be made. Diode currents in AVC circuits and AFC current can be quickly and accurately measured. Ideal for condenser leakage tests—maximum voltage on any range being 15 volts. Overall accuracy on a-c ranges is within 3% on normal frequencies due to improved rectifier circuit. Practically no frequency error from 50 to 7000 cycles. Temperature error is guaranteed to be within 2% from 40°F to 110°F.

Equipped for mounting Model 666 Socket Selector unit. Black panel trimmed in red and chromium. Size: 15⅛'' x 5⅛'' x 8¾''. Weight: 8½ lbs.



Model 772 Type 6

RANGES—MODEL 772

VOLTS D-C	VOLTS A-C	CURRENT D-C Only	DECIBELS	OHMS
2.5	2.5	.1 Ma.	—14 to + 2	0-3000
10	10	1 Ma.	— 2 to +14	0-30,000
50	50	10 Ma.	+12 to +28	0-3 Meg.
250	250	50 Ma.	+26 to +42	0-30 Meg.
1000	1000	250 Ma.	+38 to +54	
5000 (with Televerter)		1 Amp.		
		10 Amp.		

LIST PRICE, Model 772, Type 6 (without Televerter)....................$66.00

LIST PRICE, Model 766, Televerter..$25.00

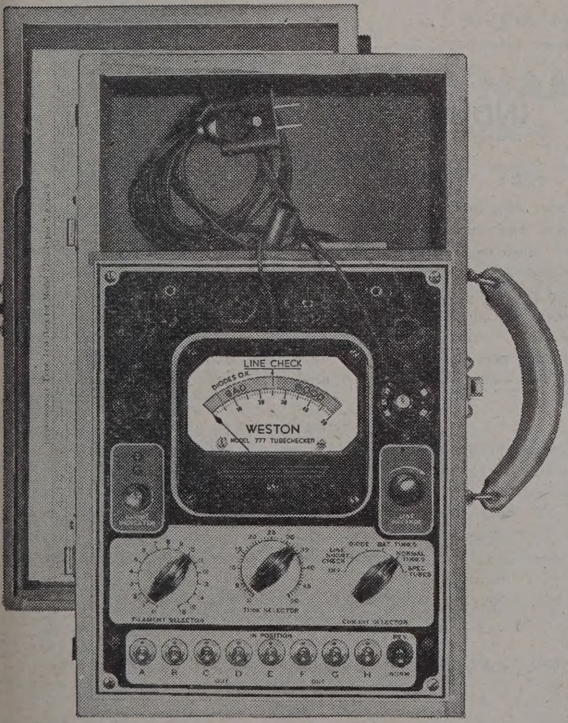
MODEL 777 TYPE 7A—TUBECHECKER

Here is a tubechecker that does more than give a test of the overall value of a tube. In addition to a total emission test, the Model 777 provides for the testing of each individual tube element. The usual Weston quality prevails with special emphasis on the new self-wiping long life toggle switches.

All features . . . TOTAL EMISSION . . . INDIVIDUAL ELECTRODE TEST . . . NEON SHORT CHECK . . . CATHODE LEAKAGE . . . LINE VOLTAGE CONTROL . . . LOAD TESTS . . . Will check octal, loctal, miniature, acorn, cold cathode and High Filament Voltage Tubes.

Size: 14½'' x 10½'' x 7''   Weight: 11½ lbs.

LIST PRICE, Model 777 Type 7A, Complete...................................$66.00



Model 777

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

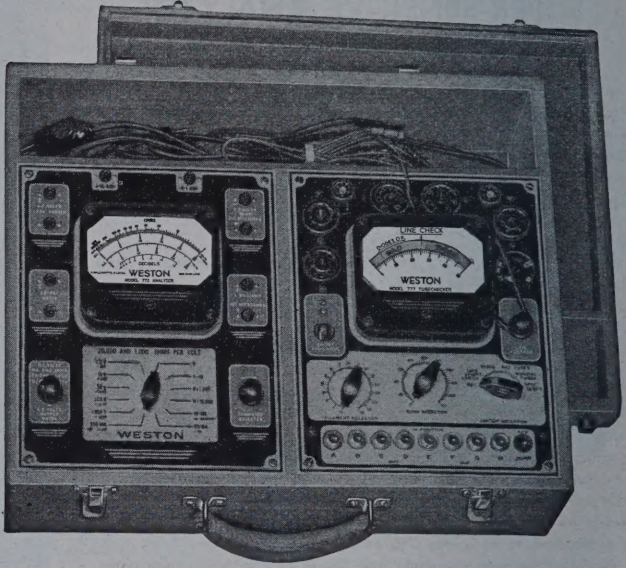
Weston RADIO INSTRUMENTS

MODEL 778—SERVISET

This deluxe test set is a complete portable workshop! It contains Model 772 Type 6 Super-Sensitive Analyzer and Model 777 Type 7A Tube Checker. Ideal for both field and shop use—units are mounted in handy combination case . . . with ample room for Weston socket selector units or tools. Can be quickly mounted on any panel or shop bench —both instruments are identical in size, shape and color —a matched set of accurate radio servicing equipment. If you now own one of these individual instruments, you can complete the set by ordering the remaining unit in the combination case.

Size: 5⅝" x 14¼" x 17¼" Weight: 17 lbs.

LIST PRICE, 778 less socket selector..........................$130.00

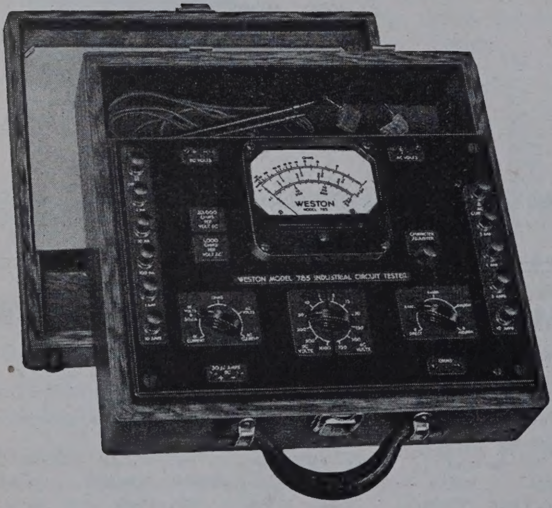


Model 778

MODEL 785
INDUSTRIAL CIRCUIT TESTER

27 Practical Ranges

FOR . . . INDUSTRY . . . LABORATORIES . . . SCHOOLS



Model 785

The Model 785 Industrial Circuit Tester brings new simplicity and ease to production and maintenance testing. This compact, self-contained unit with its ultra sensitive instrument provides all the ranges necessary for voltage, current and resistance measurements wherever high sensitivity is a factor . . . including all types of signal systems, telephone circuits, photo-cell circuits, oscilloscope circuits, and for servicing network protectors, etc. . . . checking the electrical values in sensitive relays, cathode ray tubes, public address systems and amplifiers, thyratron tubes, electrical equipment, etc. . . . as well as for many other plant production and electrical maintenance requirements.

Full Scale Ranges

D-c Voltage—1/10/50/200/500/1000 volts (20,000 ohms per volt).

A-c Voltage—5/15/30/150/300/750 volts (1000 ohms per volt).

D-c Current—1/10/100 milliamperes, 1/10 amperes. Instrument is calibrated so that 100 mv. shunts can be used for ranges above 10 amperes.

A-c Current—.5/1/5/10 amperes. Higher ranges with external current transformers.

Resistance—3,000/30,000/300,000/3 meg./30 meg. full scale.

Size and Weight

13" x 12½" x 5½". Weight with batteries, oak case, etc: 13½ pounds.

List Prices

Model 785 in Oak Carrying Case	$125.00
Model 785 without Carrying Case	$105.00

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

JACKSON *Radio Testing Equipment*

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON, OHIO

MODEL 636 DYNAMIC TUBE TESTER

With Built in Rotary Tube Chart

Has every feature of finest design and construction including Dynamic test method, roll chart, noise test, neon shorts test, line control, power switch, etc.

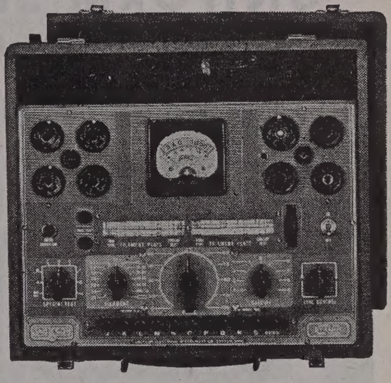
- NEW in design and performance including the latest Jackson patented switching circuits.
- MODERN in every feature of construction, appearance and operation.
- COMPLETE with every valuable feature. Up to date for all newest tube types.

SPECIFICATIONS

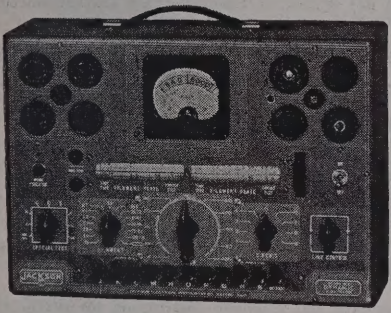
"DYNAMIC" METHOD OF TEST—Makes a better test on every tube. The "Dynamic" method is more accurate, frequently finding "poor" tubes which might pass for "good" in ordinary testers.

NEW-HIGH VOLTAGE POWER SUPPLY is a feature of this tester. By testing tubes at higher plate voltages (over 200 V. for some types), more accurate results are obtained.

TESTS ALL TUBES—ALL of the popular receiving types and television amplifiers, including BAMTAMS—LOCTALS—SINGLE ENDED—HIGH VOLTAGE FILAMENT TYPES and MINIATURES. Provision for many more. The tester is protected against obsolescence in every possible feature.



Portable Style



Bench Style

ROLL CHART tube index—simplifies correct settings.

FULL RANGE FILAMENT SELECTION—From ¾ V. to 115 V. Selector marked directly in volts. This feature eliminates guess work and helps the operator to avoid mistakes.

MOST IMPROVED TYPE OF SWITCHING SYSTEM—Spare circuits and switch positions provided for future use. Two "spare" socket positions.

NOISE TEST jacks are provided for audible test of possible tube noise.

Illustrated above is the Model 636 Portable. The tester is installed in a beautiful French grey leatherette case. The hinged lid is removable. The Portable Model is recommended because of the extra convenience and added protection for instrument panel.

Dimensions: 14" long x 12" x 5½". Wt. 11 lbs.

MODEL 636 (PORTABLE) NET CASH PRICE **$41.50**

BENCH STYLE

Installed in welded steel cabinet, with sturdy handle and rubber bumpers on both base and back. Two tone grey finish. Dimensions: 13" long x 9½" x 5½". Wt. 10 lbs.

MODEL 636-B (BENCH STYLE) NET CASH PRICE **$36.95**

MODEL 637 DYNAMIC OUTPUT TUBE TESTER

With Complete Universal Meter Ranges

IN THE SHOP or OUT ON THE JOB, here's the ideal tester for modern servicing. Combines 27 ranges and 10 functions including—

1—Dynamic Output Tube Tester—accurate, thorough.
2—Ballast tube tester—finds shorts or burn-outs.
3—High sensitivity neon continuity tester.
4—Condenser test for finding shorted or leaky condensers.
5—Multi-range A.C. Voltmeter 0-10/100/250/500/1000/2500.
6—Multi-range D.C. Voltmeter 0-10/100/250/500/1000/2500.
7—Decibel Meter—Ranges from minus 10 to plus 14/10 to 34/30 to 54.
8—Multi-range D.C. Milliammeter 0-1/10/100/250.
9—Ammeter range—0 to 10 amperes D.C.
10—Triple range Ohmmeter 0-3000/300,000/0-30 megohms.

AUTOMATIC PUSH BUTTON SELECTOR provides for instant use of any meter range. This new selector is remarkably fast to use and also reduces the possibility of mistakes in selecting meter ranges.

FULL RANGE FILAMENT SELECTION—From ¾ V. up to and including 115 V. Filament selector marked directly in volts at each position. This feature eliminates guess work and helps the operator to avoid mistakes.

TESTS ALL TUBES—All of the popular receiving types and television amplifiers, including BAMTAMS - MINIATURES - LOCTALS - SINGLE ENDED - AND HIGH VOLTAGE FILAMENT TYPES. Provision for many more. Tester is protected against obsolescence in every possible feature of design and manufacture.

"DYNAMIC" METHOD OF TEST—Makes a better test on every tube. The "Dynamic" method is more accurate and frequently finds "poor" tubes which might pass for "good" in ordinary testers.

NEW - HIGH VOLTAGE POWER SUPPLY is a feature of this tester. By testing tubes at higher plate voltages (over 200 V. for some types), more accurate results are obtained.

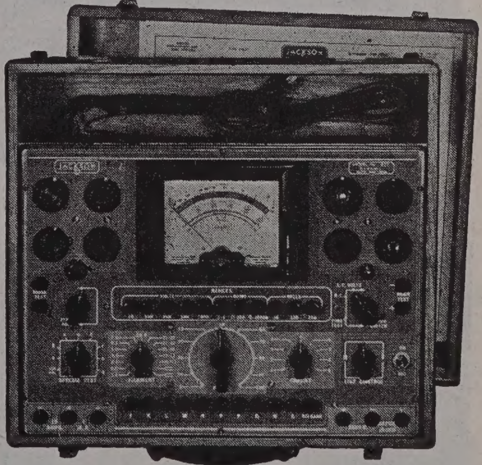
MOST IMPROVED TYPE OF SWITCHING SYSTEM—Spare circuits and switch positions are provided for future use if new or different tubes are announced. Two "spare" socket positions are provided on the tester panel.

REMARKABLY EASY TO USE—Notice the simplicity of panel and controls. The engineering is all BENEATH THE PANEL—you don't lose valuable time figuring out "the next move."

ILLUMINATED METER DIAL—Easy to read in any room. Panel lettering is large and distinct.

NOISE TEST jacks are provided for audible test of possible tube noise.

ALL READINGS DIRECT on "Good-Bad" Scale. No special marks for diodes, etc.



The FULL VISION Jackson Meter is an exclusive feature of this tester. Meter measures 6 inches over flanges. DIAL IS ILLUMINATED.

OAK CASE is of finest construction and has removable hinged lid. Dimensions 14¾" x 13¾" x 6". Weight 14 pounds.

ACCESSORIES—Furnished complete with self contained battery (for ohmmeter), and test prods.

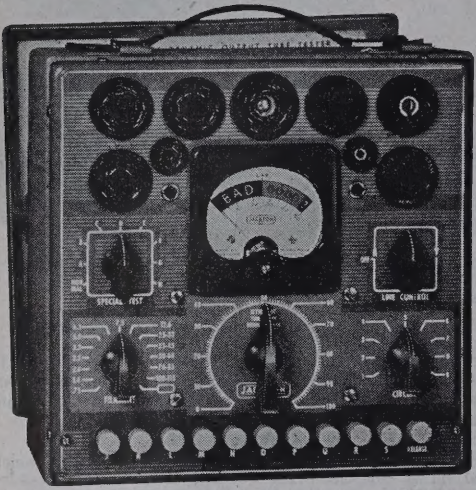
MODEL 637 NET CASH PRICE **$61.50**

JACKSON *Radio Testing Equipment*

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON, OHIO

UNIFORM SIZE PORTABLE INSTRUMENTS

PANEL SIZES ARE IDENTICAL



TUBE TESTER

FULL RANGE FILAMENT SELECTION—From ¾ V. up to and including 115 V. Filament selector marked directly in volts at each position. This feature eliminates guess work and helps the operator to avoid mistakes.

TEST ALL TUBES—All of the popular receiving types and television amplifiers, including BAMTAMS - LOCTALS - SINGLE ENDED - HIGH VOLTAGE FILAMENT TYPES AND MINIATURE SERIES.

"DYNAMIC" METHOD OF TEST—Makes a better test on every tube. The "Dynamic" method is more accurate and frequently finds "poor" tubes which might pass for "good" in ordinary testers.

NEW - HIGH VOLTAGE POWER SUPPLY is a feature of this tester. By testing tubes at higher plate voltages (over 200 V. for some types), more accurate results are obtained.

MOST IMPROVED TYPE OF SWITCHING SYSTEM—Spare circuits and switch positions are provided for future use if new or different tubes are announced. A "spare" socket position is provided on the tester panel.

MODEL 634 NET CASH PRICE **$33.95**

JACKSON
CONDENSER TESTER MODEL NO. 650-A
POWER FACTOR
CAPACITY TEST
LEAKAGE
TEST VOLTAGE
CONDENSER

CONDENSER TESTER

MODEL 650-A

RANGE—.00001 to 1,000 mfds.

AUTOMATIC PUSH BUTTON CONTROLLED—Amazing in speed and simplicity of use. Capacity readings almost instantaneous! Leakage test by just pressing a button.

The Model 650 is a modern, accurate and complete instrument for detecting faulty condensers—ELECTROLYTIC, PAPER or MICA. Uses a new method for Leakage Test which will reveal otherwise unnoticed condenser defects.

SCALE IS GLASS ENCLOSED and is equipped with the new Jackson SCALE EXPANDER indicating pointer—doubles effective scale length.

MEASURES ALL VALUES direct reading in Microfarads.

RANGES

.00001 to .001 mfd.	.1 to 100 mfd.
.001 to .1 mfd.	50 to 1000 mfd.

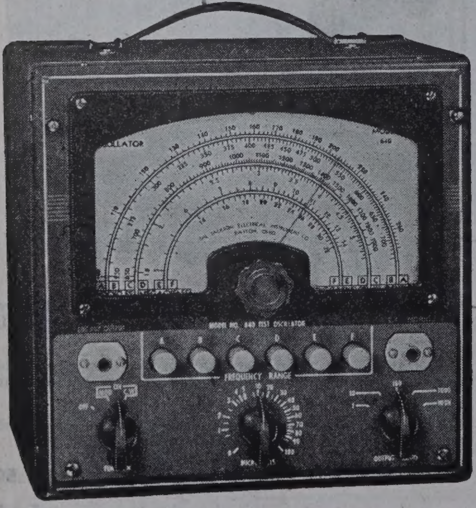
MEASURES POWER FACTOR on direct reading dial. Power Factor range calibrated from 0 to 60%.

COMPLETE SELECTION OF TEST VOLTAGE. 20 volts to 500 volts.

ELECTION RAY TUBE indicates exact balance or shows if leakage is present.

INSTANTANEOUS LEAKAGE INDICATION—counting of flashes eliminated. No other guess-work with this modern tester. Has special built-in amplifier stage which actually responds to slightest leakage, if present. Thus all leakage defects may be located.

MODEL 650-A NET CASH PRICE **$36.95**



MODEL 640 TEST OSCILLATOR

A complete "standard type" oscillator for all general purpose work. Has full range direct reading dial from 100 KC up to 30 Megacycles. No skips or harmonics calibrated. All ranges are fundamental frequencies. PUSH BUTTON selection of all ranges makes speedy and accurate operation possible.

GLASS ENCLOSED DIAL—prevents dust and avoids possibility of damage to pointer.

TWO CIRCUIT ATTENUATOR provides variable ratio and also vernier control.

HAS POWERFUL SIGNAL output which may be used either as pure R.F. or Modulated R.F. Carrier is modulated at approximately 30%. The A.F. voltage is available for external use.

ACCURACY GUARANTEED to ½ of 1% on all ranges.

Operates from 110 volt 60 cycles. Uses three tubes (rectifier, oscillator and modulator).

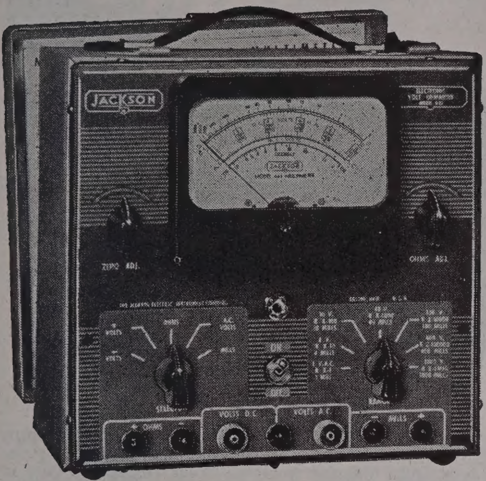
MODEL 640 NET CASH PRICE **$36.95**

JACKSON *Radio Testing Equipment*

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON, OHIO

MODEL 645 AC-DC ELECTRONIC MULTIMETER

(Vacuum Tube Voltmeter)



BOTH A.C. AND D.C. VOLT RANGES ARE ELECTRONIC. This provides the maximum of sensitivity and overload protection for all A.C. ranges as well as D.C. and ohms ranges.

MEASURES RESISTANCE UP TO 1 BILLION OHMS (1 thousand megohms)—and as low as 2/10 ohm.

3 MILLION OHMS PER VOLT SENSITIVITY on 0-4 volt D.C. range. Constant input resistance 12 megohms on all D.C. volts ranges.

Over 4 million ohms per volt sensitivity on 0-1 volt A.C. range. Input resistance of 4.4 megohms on all A.C. ranges. Flat frequency response between 50 cycles and 10,000 cycles.

METER CANNOT BE DAMAGED BY ACCIDENTAL OVERLOAD on any electronic range. Electronic overload protection on all A.C. and D.C. volts, and ohms ranges.

Variations in line voltage do not affect accuracy within the range of 100 to 125 volts. The instrument is equipped with ballast control tube and self-compensating circuits.

Contains 3 tubes (6X5GT/6K6GT/7N7), neon regulator, 1-4½ volt battery and ballast; all self-contained and furnished with the instrument.

METER RANGES—

A.C. Volts: 0-1/4/10/40/100/400/1000
D. C. Volts: 0-4/10/40/100/400/1000
Ohms: 0-1000/10,000/100,000/1meg/10meg/100meg/1000meg
M.A.: 0-1/4/10/40/100/400/1000
Decibels: Minus 30 to minus 5/minus 10 to plus 15/10 to 35/30 to 55

Either positive or negative D.C. voltmeter indications instantly by means of reversal switch. Signal Tracing type test lead with isolation resistor in probe.

Model 645 is an ultra-modern high sensitivity instrument, with all of the famous Jackson features, including exceptional accuracy and simplicity of use.

MODEL 645 NET PRICE **$56.50**

GENERAL SPECIFICATIONS

The instruments listed on these pages are perfectly matched units—identical in panel size, style, color, and case construction. (Models 634, 640, 642, 643, 645, and 650-A.)

DIMENSIONS—8½" x 8½" x 6"—Unit welded steel, finished in grey morocco. Each instrument (except Model 640 Oscillator) is equipped with removable hinged metal lid.

ACCESSORIES—Each instrument is completely equipped with all necessary tubes, test leads or batteries and ready to operate.

Shipping weight for any unit—approximately 10 lbs.

MODEL 642 UNIVERSAL MULTIMETER 20,000 OHMS PER VOLT

A valuable and necessary instrument for all measurements of sensitive circuits such as A.V.C. voltages, etc. Many measurements may be made with current drain as low as 10 microamperes!

AUTOMATIC RANGE SELECTION—PUSH BUTTON CONTROLLED. Instant selection of any meter range is made simple with the eleven key push button selector.

TWENTY-THREE RANGES—SEVEN FUNCTIONS AC/DC volts — ohms — decibels — milliamperes — microamperes and amperes. Has special built-in shunt and 10 ampere range.

OHMS RANGES from ½ ohm up to thirty megohms. No external batteries or line power required. Current readings may be made as low as 2/1000ths of one milliampere. All D.C. volts ranges are 20,000 ohms per volt.

METER RANGES—

A.C. Volts: 0-10/100/250/500/1000/5000
D.C. Volts: 0-10/100/250/500/1000/5000
Decibels: Minus 10 to plus 14/10 to 34/30 to 54
D.C. M.A.: 0-10/100/250
Microamps: 0-100
Amperes: 0-10
Ohms: 0-3000/300,000/30,000,000

Construction is of the finest in materials and workmanship. Case is welded steel finished in grey morocco. Fitted with removable hinged steel cover. Protects meter and controls.

Case dimensions: 8½" x 8½" x 6". Weight 6 lbs. Complete with self-contained battery. Furnished with test leads.

MODEL 642 NET CASH PRICE **$48.50**

1,000 OHMS PER VOLT MODEL—Same ranges as above except micro-amps is 0-1000 and ohms ranges are 0-3000/300,000/3,000,000.

MODEL 643 NET CASH PRICE **$33.95**

NEW COMPACT MULTIMETERS

Models 610 and 615 are excellent general purpose instruments, compact in size but very complete in ranges. The two instruments are identical in size and style. Panels are finished in attractive two tone grey with white lettering.

RANGE SELECTION—Rotary switch method saves time and reduces errors. HIGH QUALITY METER—Three inch square type meter with two jewelled bearings.

RANGES MODEL 610

TWO OHMS RANGES—0-1000/0-500,000
FIVE D.C. VOLTS RANGES—0-5/50/100/250/1000
FOUR D.C.M.A. RANGES—0-1/5/50/250

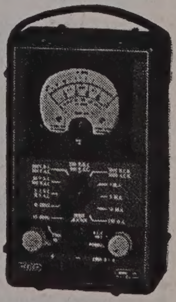
RANGES MODEL 615—Same as Model 610 except has additional ranges of—

FIVE A.C. VOLTS RANGES—0-10/100/200/500/2000
ADDITIONAL HIGH VOLTAGE D.C. RANGE—0-2500 v.

Each instrument supplied complete with self-contained battery for ohms ranges. Test leads not included. Dimensions—7" x 4¼" x 3"

MODEL 610 DEALER NET PRICE **$13.50**

MODEL 615 DEALER NET PRICE **$18.95**



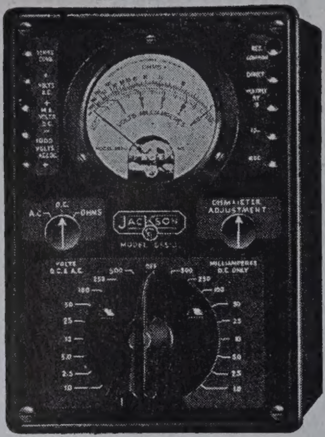
JACKSON *Radio Testing Equipment*

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON, OHIO

INDUSTRIAL CIRCUIT TESTER

Volt Ohm Milliammeter

MODEL 665-J



This multiple range instrument is designed to meet exacting requirements in various uses where thorough electrical testing is a necessity.

Production testing on motors, controls, etc.
Industrial and educational laboratories.
Military use—Signal Corps, Air Corps, etc.
Manufacturing—Plant Maintenance.
Tests on Signal Systems, Alarm Devices, etc.

The instrument is completely self-contained, is lightweight, compact, and portable. The unusually complete selection of meter ranges are suited to a wide range of measurements.

A total of 33 ranges are provided. Any range may be rapidly selected by means of the switching and pin jack arrangement.

All meter shunts and multiplier resistors are wire wound. The resistors are non-inductive and have a negligible temperature coefficient. All resistor spools are protected against moisture absorption.

The indicating meter is of finest quality, designed for sustained accuracy under severe conditions. It is designed to withstand various temperature and humidity changes as well as vibration, overloads, etc.

A.C. ranges are accomplished by means of a full wave type copper oxide rectifier. This full wave rectifier circuit provides more stability at various frequencies and wave forms than the half wave type.

The panel is molded bakelite with all characters white filled for maximum legibility. Pin tip jacks for test leads are molded into the panel. The case is made of steel and finished in black morocco enamel.

— RANGES —

VOLTS AC & DC (1000 ohms per volt)
0-1000/500/250/100/50/25/10/5/2.5/1.0
MILLIAMPERES
0-500/250/100/50/25/10/5/2.5/1.0
OHMS
0-1,000 —(25 ohms center scale)
0-10,000 —(250 ohms center scale)
0-100,000 —(2,500 ohms center scale)
0-1,000,000—(25,000 ohms center scale)
OUTPUT RANGES

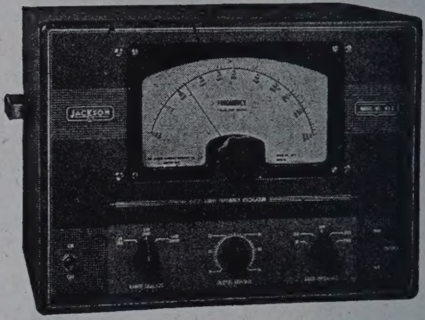
The A.C. Ranges of 1 to 1000 volts may be used by means of the built-in series condenser. This provides for adjustment of output levels of receivers, speakers, amplifiers, etc.

ACCURACY: 2% on DC Ranges—5% on AC Ranges.
DIMENSIONS: 5½ x 8¼ x 3-27/32". WEIGHT: 5 lbs.
Test Leads Furnished.

NET PRICE (Less carrying case)	**$65.00**
Case for 665-J (Leatherette)	5.00

AUDIO OSCILLATOR

MODEL 652



The Model 652 provides an audio frequency voltage DEVELOPED AT ITS FUNDAMENTAL FREQUENCY. The basic design of the instrument is entirely different from the "beat frequency" type of Audio Oscillator.

FEATURES

RESISTANCE CAPACITY TUNED CIRCUIT DESIGN, engineered for modern needs of audio measurements.

NO ZERO ADJUSTMENT—Tuned Fundamental Frequency method provides permanently locked calibration.

OUTPUT CHARACTERISTICS—Model 652 meets the most exacting requirements as to WAVE FORM—UNIFORM FREQUENCY CHARACTERISTIC—AND OUTPUT LOAD IMPEDANCE SELECTION. A special feature of the output system is the ten ohm tap for low impedance circuits such as speaker voice coils, etc.

COMPLETE STABILITY—The stability of frequency calibration is constant throughout the entire range. The stabilized circuit permits large changes in line voltage to occur without affecting frequency or waveform and having negligible effect on output voltage.

SIMPLIFIED OPERATION—It is only necessary to select desired FREQUENCY and OUTPUT. THERE ARE NO OTHER CONTROLS. Therefore the possibility of errors in operation is eliminated.

HIGH OUTPUT POWER—More than THREE TIMES the output power usually available from "ordinary" audio oscillators.

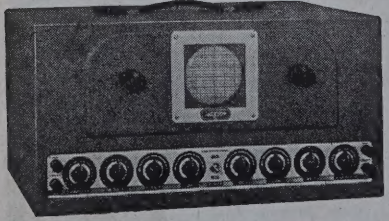
CONSTRUCTION—Frequency dial is glass enclosed. All controls are legibly marked. Rugged mechanical construction assures trouble-free operation under severe service conditions.

SPECIFICATIONS

Frequency Range—20 cycles to 20,000 cycles in 3 ranges. 20-200 cycles/200-2000 cycles/2000-20,000 cycles.
Accuracy—Frequency calibration accurate to within 3% or 1 cycle.
Output Impedance—Five values of output impedance 10 ohms/250 ohms/500 ohms/5000 ohms/HIGH. Controlled by selector switch.
Output Power—500 milliwatts. Continuously variable from zero to maximum.
Waveform—Less than 5% Harmonic Distortion between 30 and 15,000 cycles.
Frequency Characteristic—Plus or Minus 1 DB between 30 and 15,000 cycles.
Line Voltage—105-120 Volts—50-60 Cycle A.C.
Tubes—1-80, 1-6SJ7, 2-6F6 furnished installed in instrument.
Dimensions—13" wide, 9½" high, 9⅝" deep. Wt. 26 lbs.

MODEL 652 NET CASH PRICE **$88.50**

CATHODE RAY OSCILLOGRAPH — MODEL 523



- Vertical Amplifier and Horizontal Amplifier
- Calibrated Linear Timing Circuit
- Frequency Control and Vernier
- Automatic "Lock-in "Control
- Spot and Focus Controls on Main Panel
- Calibrated Screen

SENSITIVITY—The input sensitivity to vertical plates is 4/10 of one volt R.M.S. per inch of deflection. This sensitivity is secured by means of high gain amplifiers having a frequency range to 100 kilocycles.

HORIZONTAL SWEEP—A horizontal time axis "sawtooth" oscillator provides a frequency from 20 to 20,000 cycles. Frequencies up to 100,000 cycles may readily be inspected, resulting in a five pattern image. Timing frequency range switch is marked directly in frequency. This feature greatly simplifies the selection of a desired frequency range.

CONSTRUCTION—Design and construction are practical in every respect. The entire cabinet is heavy gauge steel construction. The instrument is attractively finished in grey morocco, oven-baked enamel. The control plates are etched with white back-ground and black characters. The very finest of materials and construction are employed throughout.

POWER SUPPLY & TUBES—Operates from 110-volt, 50-60 cycle power supply. The Model 523 is supplied complete with 3-inch Cathode Ray Tube, two type 57, one type 885 and two type 80.

DIMENSIONS—17" x 8¾" x 12¾" overall. Weight 30 lbs.

MODEL 523 NET CASH PRICE **$76.50**

DUMONT Cathode-Ray TUBES ★ OSCILLOGRAPHS ★ EQUIPMENT

DU MONT TYPE 164-E 3" CATHODE-RAY OSCILLOGRAPH

Because of its compactness, limited weight and modest price, the Type 164-E Cathode-ray Oscillograph is a favorite with radio servicemen and with engineers who require a small portable field instrument. The limited power consumption of this instrument is also a valuable factor in field work.

A three-inch cathode-ray tube is employed operating at an accelerating potential of 1100 volts, to provide good brilliance with a fine, sharp trace. The single-stage vertical amplifier has a voltage-gain of approximately 45 over the frequency range from 5 to 100,000 sinusoidal cycles per second. The horizontal amplifier may be switched to amplify either the sweep circuit or any externally-provided signal, so that Lissajous patterns for frequency determinations may be employed.

Deflection-plate terminals are available at the rear of the instrument without removing the case. Either a Type 3AP1 cathode-ray tube with medium-persistence green screen or a Type 3AP11 cathode-ray tube with short persistence blue screen for photographic applications may be employed. A removable calibrated scale, which is supplied with the instrument, fits over the screen of the cathode-ray tubes.

SPECIFICATIONS

Standard 3-in. Type 3AP1 supplied. Standard tube has green, medium-persistence screen. Short-persistence blue screen for moving-film recording supplied on order at slight additional cost. Removable calibrated scale fits over tube screen.

Input-Impedance: Vertical: 1,000,000 ohms. Horizontal: 800,000 ohms. Maximum potential 400 d.c. volts.

Frequency-Range: Vertical and Horizontal amp. both uniform within 20% from 5 to 100,000 cycles.

Deflection Sensitivity: Maximum vertical: 0.80 r.m.s. volt/in. Maximum horizontal: 0.65 r.m.s. volt/in. Deflection sensitivity of cathode-ray tube is 30 r.m.s. volt/in.

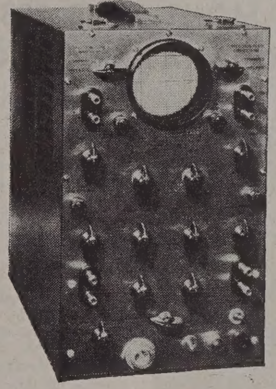
Sweep Circuit: Amplified sweep circuit over continuous range from 15 to 30,000 cycles. Return-trace elimination included. Synchronization from either vertical deflection or external signal.

Power Supply: 115/230 volts, 40-60 cycles a.c. Power consumption 50 watts.

Tubes: All tubes, including the cathode-ray tube are supplied with the instrument.

Physical Specifications: Black wrinkle-finish steel cabinet. Convenient carrying handle. White characters on black, plated metal background. Height, 11⅝ in.; width, 7⅜ in.; depth, 14 in. Shipping weight 25 lbs.

Cat. No.	Type No.	Description	Net Price
1064A	164-E	115v. 40-60 cycles with 3AP1 Cathode-ray Tube........	$105.00
1065A	164-E	230v. 40-60 cycles with 3AP1 Cathode-ray Tube........	105.00
1066A	164-E	115v. 40-60 cycles with 3AP11 Cathode-ray Tube....	107.50
1067A	164-E	230v. 40-60 cycles with 3AP11 Cathode-ray Tube....	107.50



DU MONT TYPE 224-A — 3" EXPANDED-RANGE OSCILLOGRAPH

The greatly expanded frequency range of this instrument permits study of signals of frequencies far beyond the range of usual standard oscillographs. It has a comparably faithful square and sinusoidal wave response. Also, it is a more versatile instrument because it provides for extreme variety in the application of the signal to the cathode-ray tube through front panel jacks or binding posts. Also, terminal on panel couples into grid of cathode-ray tube for intensity modulation. Y-amplifier has an input connection for the test probe and shielded cable supplied, reducing input capacitance and eliminating usual stray pickup.

This instrument is housed for severe service out in the field as well as in the laboratory or plant. Protective, removable front cover safeguards panel and controls when not in use or when in transit, and also holds the test probe and shielded cable.

SPECIFICATIONS

Standard 3-in. Type 3GP1 supplied. Standard tube is green medium-persistence screen. Removable calibrated scale fits over tube screen.
Input-Impedance: Vertical and horizontal: To terminals, 2 meg., 30 uuf. To probe, 1 meg., 20 uuf. Direct (Balanced) 10 meg., 20 uuf. Direct (Unbalanced) 5 meg., 25 uuf.
Frequency Range: Y-axis sine wave response uniform within 3 db. from 20 c. to 2 mc. Comparably faithful square and sinusoidal wave response.
X-axis uniform within 3 db. from 10 c. to 100 kc. Distortionless input attenuator and gain control.
Deflection Sensitivity: With amplifier, to Y-axis terminals, 0.1 volt r.m.s./in. deflection; to Y-axis with probe, 0.4 r.m.s./in. deflection; to X-axis terminals, 0.7 volt r.m.s./in deflection. Direct to deflection plates, to Y-axis, 25 volts r.m.s./in. deflection; to X-axis, 28 volts r.m.s./in. deflection.
Linear Time-Base: Frequency range of 15 to 30,000 c.p.s. Direction of sweep, left to right. Synchronizing signal sources, internal or Y signal, 60 cycle, or external. Synchronizes with either polarity of synchronizing signal.
Power Supply: 115 volts. 50-60 cycles a.c. Power consumption 150 watts. Fuse protection 3 amps.
Tubes: All tubes, including cathode-ray tube, are supplied with the instrument.
Physical Specifications: Olive drab wrinkle-finish steel cabinet. Convenient carrying handle. Black characters on etched bright metal panel. Removable front cover. Height, 14⅛ in.; width, 8⅜ in.; depth, 15⅛ in. Shipping weight, 49 lbs.

Cat. No.	Type No.	Description	Net Price
1191	224-A	115v. 40-60 cycles with 3GP1 Cathode-ray Tube and Test Probe..	$250.00
1203	224-A	115v. 40-60 cycles with 3GP11 Cathode-ray Tube and Test Probe....	252.75

DATA Only the more popular oscillographs and cathode-ray tubes are presented in this highly-condensed cataloging. More detailed literature on the entire DuMont line, together with a free subscription to the "DuMont Oscillographer", may be had by addressing Allen B. DuMont Laboratories, Inc., 2 Main Ave., Passaic, New Jersey.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DUMONT Cathode-Ray TUBES ★ OSCILLOGRAPHS ★ EQUIPMENT

DU MONT TYPE 208-B
5" CATHODE-RAY OSCILLOGRAPH

Popular five-inch instrument incorporating every possible desirable feature in a standard instrument along with many new improvements which have been incorporated for the first time in any cathode-ray equipment. High accelerating-potential on the new intensifier-type tube insures good brilliance. New, wide-frequency-range amplifiers with symmetric deflection and high sensitivity provide good focus over the entire screen area of the Cathode-ray tube. The direct-current-coupled deflection amplifier provides for d.c. amplification with a sensitivity of approximately 0.5 d.c. volt per inch deflection.

The cathode-loaded input stage of this instrument gives undistorted frequency-response over the entire frequency-range regardless of input attenuator setting.

Unusual mechanical design of this cathode-ray oscillograph has been incorporated which gives more efficient electrical operation and balances the weight distribution of the instrument so that it is very convenient to carry. Amplifier-, sweep-, and position-control circuits offer extended frequency-range and ease of operation, permitting the beam to follow immediately all changes in control adjustment. Regulated power supplies make the oscillograph practically independent of line-voltage surges in spite of its high gain.

SPECIFICATIONS

Cathode-ray Tube: Type 5LP1 intensifier type, high-vacuum, with four free deflection plates. Standard tube, Type 5LP1, has green medium-persistence screen. Type 5LP11 with blue, short-persistence screen supplied at slight additional cost. Beam switch provided on front panel. Removable calibrated scale supplied.

Input-Impedance: X-axis, 5 megohms, 25 uuf Y-axis, 2 megohms, constant 30 uuf input loading. Continuously-variable attenuator free from both frequency and amplitude distortion attenuates signal with no pattern-shift.

Frequency Range: Y-axis, plus or minus 10% from 2 to 100,000 sinusoidal cycles; X-axis, plus or minus 15% from 2 to 100,000 sinusoidal cycles.

Voltage Gain: Y-axis—2000 times; X-axis—43 times.

Deflection Sensitivity: Max. Y-axis 0.010 r.m.s. volt/in. Max. X-axis 0.500 r.m.s. volt/in. Direct to deflection plates—21 and 22 r.m.s. volts/in. Y-axis and X-axis respectively.

Horizontal Switching: Frequency-range control for horizontal sweep-circuit is arranged so that its OFF position connects X-axis amplifier input to input terminal provided on front panel.

Sweep Circuit: Recurrent sweep available over continuously-variable range from 2 to 50,000 cycles. Direction of sweep is from left to right.

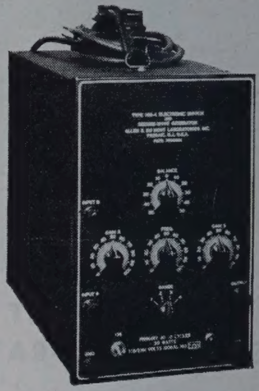
Power Supply: High-voltage power unit supplies 1120 v. d.c. in series with amplifier power unit to furnish total accelerating potential of 1400 volts. Deflection-plate potentials vary in balanced pairs about ground. Voltage regulation is provided for low-level amplifiers and positioning circuits. Instrument operates directly from 115/230 v. 40-60 cycle a.c. Consumption 90 watts.

Tubes: All tubes including the cathode-ray tube are supplied with the instrument. A total of 15 tubes is employed.

Physical Specifications: Black, wrinkle-finished steel cabinet. Convenient carrying handle. Plated brass front panel with chrome-on-black lettering. Height, 14¼ in.; width $8\frac{13}{16}$ in.; depth 19½ in. Shipping weight 67 lbs.

Cat. No.	Type No.	Description	Net Price
1146	208-B	115 v. 40-60 cycles with 5LP1 Cathode-ray Tube........	$235.00
1147	208-B	230 v. 40-60 cycles with 5LP1 Cathode-ray Tube........	235.00
1148	208-B	115 v. 40-60 cycles with 5LP11 Cathode-ray Tube......	237.75
1149	208-B	230 v. 40-60 cycles with 5LP11 Cathode-ray Tube......	237.75
1150	208-B	115 v. 40-60 cycles with 5LP7 Cathode-ray Tube........	242.50
1151	208-B	230 v. 40-60 cycles with 5LP7 Cathode-ray Tube........	242.50

DU MONT TYPE 185-A
ELECTRONIC SWITCH



The Type 185-A Electronic Switch is an extremely valuable supplementary instrument for use with any Du Mont or other make of cathode-ray oscillograph.

The instrument has been designed for simultaneous studies of such signals as input and output signals of amplifiers, of both phases of push-pull amplifiers, and for simultaneous voltage- and current-studies of a.c. and d.c. circuits. Two or three units may be operated in cascade to provide three channels for investigations of three- and other polyphase a.c. circuits.

The Type 185-A Electronic Switch consists of two amplifiers, operating in parallel, which are alternately biased to cut off by a multivibrator type square-wave generator whose frequency may be varied over a wide range to suit operating conditions. The outputs of the two amplifiers are fed to a common output terminal. In application one unknown signal is connected to the input of each amplifier and their mixed and switched output is fed from the output terminal to the input of a standard cathode-ray oscillograph to give the appearance of observing both signals at once. The balance control of the Electronic Switch makes it possible to superimpose both signals for direct comparison or to separate them on the screen of the cathode-ray tube for individual study.

SPECIFICATIONS

Frequency Range: Continuously variable, 10 to 2000 times per second. Essentially uniform response of amplifier from D.C. to 5,000 sinusoidal cycles per second. No phase distortion experienced from low-frequency limit to 25,000 sinusoidal cycles per second.

Voltage Gain: 10 times for identical amplifiers on each axis.

Controls: Coarse and fine square wave and switching frequency controls, separate amplifier gain controls, balance control and power switch.

Power Supply: Instrument entirely A.C. operated from 115/230 v. 40-60 cycle supply. Power consumption, 30 watts. Fuse protection, 1 amp.

Tubes and Functions: All tubes supplied with instrument, as follows: 2—Type 6V6 Blocking Tubes; 2—Type 6SJ7 Switching Amplifiers; 2—Type 6J5 Oscillators; 1—Type 80 Rectifier.

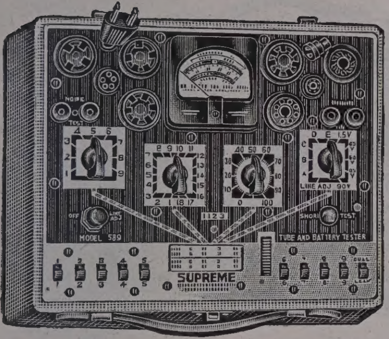
Physical Specifications: Black wrinkle-finish steel cabinet. Convenient carrying handle. Black, plated panel with white lettering. Dimensions: Height, 11½ in.; width, 7⅜ in.; depth 13 in. Net weight 17 lbs.

Cat. No.	Type No.	Description	Net Price
1072A	185-A	115 v. 40-60 cycles....................	$105.00
1073A	185-A	230 v. 40-60 cycles....................	105.00

Du Mont Cathode-ray Tubes

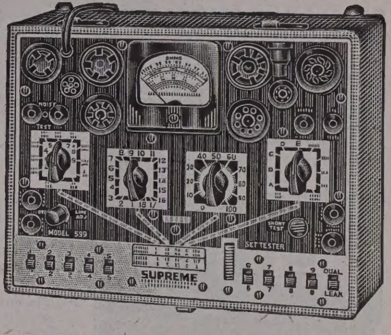
Type	Screen Dia.	Max. Over-all Length	Color	Persistence	Use	Net Price
3AP1	3"	11⅞"	Green	Medium	Osc.	$14.85
3AP11	3"	11⅞"	Blue	Short	Osc.	16.50
3GP1	3"	11⅞"	Green	Medium	Osc.	22.00
3GP4	3"	11⅞"	White	Medium	Osc.	22.00
3GP11	3"	11⅞"	Blue	Short	Osc.	24.75
5MP1	5"	16¼"	Green	Medium	Osc.	38.50
5MP11	5"	16¼"	Blue	Short	Osc.	41.25
5LP1	5"	17⅛"	Green	Medium	Osc.	33.00
5LP2	5"	17⅛"	Green	Long	Osc.	38.50
5LP11	5"	17⅛"	Blue	Short	Osc.	35.75
5BP1	5"	17⅛"	Green	Medium	Osc.	24.75
5BP4	5"	17⅛"	White	Medium	Osc.	24.75
5BP11	5"	17⅛"	Blue	Short	Osc.	27.50
5JP1	5"	17⅛"	Green	Medium	Osc.	52.50
5JP11	5"	17⅛"	Blue	Short	Osc.	55.25
5CP1	5"	17⅛"	Green	Medium	Osc.	44.50
5CP4	5"	17⅛"	White	Medium	Osc.	44.50

SUPREME INSTRUMENTS
Newest Engineering Developments



MODEL 589
TUBE AND BATTERY TESTER
←

MODEL 599
TUBE AND SET TESTER
→



MODEL 589 TUBE AND BATTERY TESTER has a completely modernized circuit. The tube test sockets are not wired directly to the circuit, but, instead, pass through the patented Supreme Double Floating Filament Return Selector system which automatically reconnects all tube elements to any possible tube base arrangement. Due to the fact that any or all elements of each socket can be rotated to any desired position, only one socket of each type is necessary. Tests every type of tube from ¾ volt to full line voltage at its correct anode potential under proper load. Tests **separate sections** in multi-purpose tubes. Checks all leakages, shorts, **open elements** and **filament continuity** with a neon lamp. A circuit insert is provided for checking noise, leakage, loose and bad connections.

The battery testing circuit of the Model 589 provides the proper load at which each battery is to operate, plainly marked on the panel, for all 1.5, 4.5, 6.0, 45 and 90 volt portable radio types. The condition of the battery is indicated on an English reading scale.

This is the fastest and easiest tester to operate. Just "follow the arrows"—you can't go wrong. Roller type tube chart with brass geared mechanism lists tubes in logical numerical order. Each tester carries a one year free tube setting service. SUPREME engineering and construction PLUS the best materials the market affords, make the 589 your biggest dollar value. You will be proud to own this instrument.

Dealer Net Cash Price **$38.50**

MODEL 599 TUBE AND SET TESTER is very similar in appearance to the Model 589, and includes all the features and advantages of this instrument. In addition, it provides the following ranges:

0.2 TO 1500 D.C. VOLTS—5 carefully selected ranges—0/6 15/150/600/1500 volts. 1000 ohms per volt STANDARD sensitivity.

0.2 TO 600 A.C. VOLTS—4 A.C. ranges—0/6/15/150/600 volts. Rectifier **guaranteed** with instrument and **fully protected** from overload damages.

0.2 M.A. TO 600 M.A.—3 direct current ranges 0/6/60/600 allow measurement of screen, plate, "B" supply and D.C. filament loads.

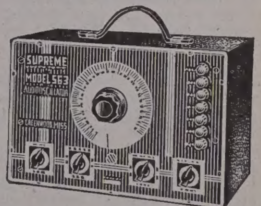
0.2 TO 600 OUTPUT VOLTS—0/6/15/150/600—ideal for alignment. No button to hold down—no external condenser necessary.

0.1 OHM TO 20 MEGOHMS—4 ranges 0/200/20,000 ohms, 0/2/20 megohms. A low range at high current with 3.5 ohms center scale.

ELECTROSTATIC—ELECTROLYTIC LEAKAGE TEST—provides an excellent test of paper condensers by means of the highly sensitive 20 megohm range. Much better than neon lamp methods as the ohmmeter is calibrated. Equally useful in checking leakage in electrolytic condensers. Just as the 589 is your best value in a tube and battery tester, the 599 is your best value in a combination tube tester, battery tester and set tester. All the features of the 589 **PLUS** a complete AC, DC, volt, ohm, megohm, milliameter, at a cost of only 47c per range.

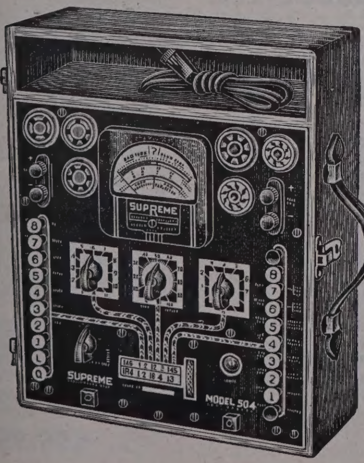
Dealer Net Cash Price **$49.95**

MODEL 563 AUDIO OSCILLATOR



The SUPREME Beat Frequency Audio Oscillator has many important service applications. It provides three output impedances of 250, 500, and 5,000 ohms; output frequency of 30 to 15,000 cycles ± 1 db. from 30 to 10,000 cycles. Down 2 db. at 15,000 cycles; power output is 125 milliwatts; distortion less than 5% RMS over entire range; hum level —60 db. below maximum output; large ratio dial, calibrated scale 11" in length; tube complement of 2 type 6SK7, 2 type 6C5, and 1 6X5; power consumption 35 watts—fuse protection. Shipping weight 20 lbs.

Dealer Net Cash Price **$56.15**



MODEL 504-A COMBINATION TESTER

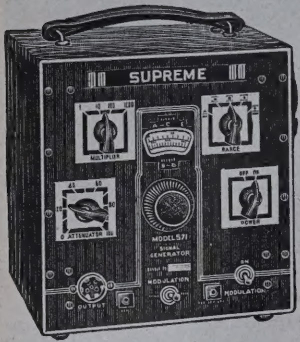
Model 504-A is radio's finest quality combination **tube tester, battery tester, condenser leakage tester,** and a 31 range push-button operated **multimeter.** Correctly tests all types receiving tubes with filaments from ¾ volt to full line voltage. Uses patented Double Floating Filament Return Selector System which automatically re-connects each tube socket for any possible tube base arrangement. Due to this special circuit only one socket is required for each tube base. Tests all standard type tubes, including octals, loctals, miniatures, Bantam, Jr., pilot lamps, etc. Speedy operation. Set controls from left to right—just "follow the arrows". Neon lamp checks for leakage, shorted elements, open elements and filament continuity. Pressing a button increases the sensitivity of the neon lamp to 2 megs. Circuit insert for noise test. Fast roll chart—free tube setting service for one year. Checks portable radio batteries under proper load. Checks leakage of electrolytic and electrostatic by-pass condensers. Quality of tubes, batteries, and electrolytic condensers all indicated on English reading "good-bad" scale. Multimeter section completely automatic with instantaneous push-button finger-tip control—7 ranges 0.1-5/25/100/250/500/1000/2500 D.C. volts; 5 ranges 0.1-5/10/50/250/1000 A.C. volts and output; 7 ranges 10-500 microamperes/2.5/10/50/250 mils., 1/10 amperes; 5 ranges 0.1-200/2000/20,000/2 meg./20 megs.—3.5 ohms center scale. Rectifier guaranteed— temperature compensated circuit. No external condenser required on output volts. Accuracy of calibration 2% on D.C. and 3% on A.C. Complete with batteries and detailed instructions.

Dealers Net Cash Price **$83.50**

SUPREME INSTRUMENTS

Supreme by Comparison

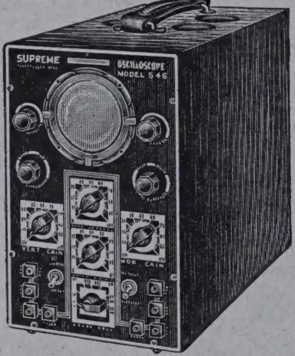
MODEL 571 SIGNAL GENERATOR



A test oscillator which offers high accuracy and stability at an amazingly low price! By using air core trimmer capacitors and iron core inductors Model 571 can be calibrated at both ends of the dial, making over-all accuracy to less than ½ of 1%. High "Q" coils and ideal L/C combination, together with rugged construction provide high frequency stability. Double shielding makes unit capable of withstanding large temperature and humidity changes as well as minimizing unwanted leakage. Wide frequency range from 65 KC to 20.5 megacycles in five bands on fundamentals and to over 60 megacycles on harmonics. All five bands read on but two basic scales calibrated on a large 6-inch illuminated dial. Dual ratio tuning mechanism provides easy, accurate adjustment. Has built-in 400 cycle audio oscillator with sine wave out-put. Provisions for internal modulation at two levels (high and low) for checking second detector distortion. Audio output also available from panel for checking A.F. systems. R.F., I.F. and high frequency fully controllable with double shielded non-shorting ladder type attenuator. Beautiful black metal panel with silver and red trim. Complete with all accessories and operating instructions.

Dealer Net Price **$49.40**

MODEL 546 OSCILLOSCOPE



Model 546 has merited the endorsement of servicemen, radio set manufacturers in research and production, industrial laboratories, factories and colleges for more than four years. A complete oscilloscope incorporating a cathode ray scope, vertical and horizontal amplifiers and linear sweep generator. Uses a high vacuum 3" cathode ray tube of the medium persistance type. All controls are on the front panel including special terminals for direct connection to deflecting plates. Can be used with or without the specially designed sensitive linear amplifiers. Both vertical and horizontal amplifiers have high impedance input and wide frequency response. Has built-in linear sweep generator for providing timing axis from 15 to 30,000 cycles. Positive, stable synchronization, internal or external. Observations may be made using external or internal sweep. Ideal for checking alignment of radio receivers, percentage of modulation on transmitters, waveforms. Extremely flexible design makes applications unlimited. Complete with detailed instructions.

Dealer Net Price **$82.50**

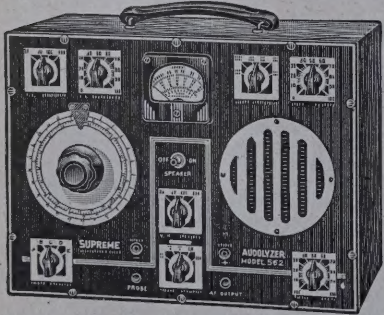
SUPREME
MODEL 561 SIGNAL GENERATOR
AUDIO OUTPUT IMPEDANCE
RADIO FREQUENCY SELECTOR
R.F. MULTIPLIER
A.F. OUTPUT
R.F. OUTPUT

MODEL 561 COMBINATION A.F. & R.F. METERED SIGNAL GENERATOR

The Model 561 is a combination of four indispensable instruments—each of the highest quality and a leader in its classification. Engineered and built into one beautiful unit it includes a RADIO FREQUENCY GENERATOR, an AUDIO FREQUENCY GENERATOR, a FREQUENCY MODULATOR and a CARRIER AND MODULATION MONITOR. The RADIO FREQUENCY GENERATOR is of special design to insure high stability and good wave-form from 65 kilocycles to 20.5 megacycles in five bands on ONLY TWO SCALES. Last band will provide signal to over 60 megacycles using harmonics. All R. F. coils are provided with adjustable iron cores and air trimmer capacitors, making the calibration accuracy to less than ½ of 1%. A separate tube is used as a buffer amplifier to provide smooth carrier control and linear modulation. Output is equipped with a completely shielded attenuator for signal control from ½ microvolt to 100,000 microvolts. The AUDIO FREQUENCY GENERATOR covers the complete audio spectrum from 15 to 15,000 cycles. Audio output has excellent wave-form with less than 5% harmonic content. Frequency response is virtually flat from 30 to 10,000 cycles and down 2 db. at 15,000 cycles. Power output is approximately 150 milliwatts with an open circuit voltage of 35 volts. Push button selection of four output impedances (50/500/5000 and 50,000) with provisions for push-pull inputs. The FREQUENCY MODULATOR is of the electronic type with internal frequency to produce a double image pattern with automatic synchronization. Two vacuum tube voltmeters are built into the unit to monitor the R. F. voltage and percentage of modulation. Each generator may be used separately or in conjunction with each other to provide the radio technician with any type of signal required for the testing and alignment of radio receivers and other electronic equipment. Each unit is shipped complete with all cables, tubes, and detailed instructions.

Dealer Net Cash Price **$107.50**

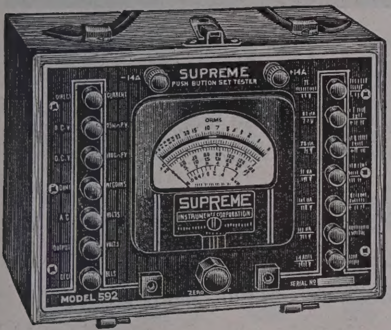
MODEL 562 AUDOLYZER



This is a quick, easy, inexpensive test instrument for DYNAMIC TESTING of every radio receiver using the Signal Tracing method. Easy to operate. You always HEAR the demodulated signal instead of watching a meter or magic eye. You can find the dead portion of any receiver by connecting your modulated signal generator to the receiver and touching the SUPREME AUDOLYZER'S probe first to the antenna post, then the grid of the R.F. tube, the R.F. tube plate, etc., right back through the complete receiver. You will hear a signal in the AUDOLYZER'S speaker (which has a volume control) until you hit the dead stage. You can use the AUDOLYZER'S vacuum tube volt meter to measure all D.C. voltages without disturbing receiver's normal operations. 7 D.C. voltage ranges of 0/1/3/10/30/100/300/1000 at 15 megs input. Meter is center-reading type with 'plus' and 'minus' readings to each side of center eliminating reversing test leads for polarity changes. You can measure resistance from 0.1 ohm to 20 megohms. 5 ranges give you perfect overlap as the 0/200 is the low range with 3.5 ohms center scale. Total ranges are 0/200/2000/20,000 ohms and 2/20 megohms. Next, you can check receiver's oscillator. If oscillator cuts out or is weak when receiver dial is rotated, AUDOLYZER meter immediately indicates it. To determine unknown frequency of oscillator, I.F., or R.F. signal, use tuning portion of SUPREME AUDOLYZER and AUDOLYZER'S V.T.V.M. as frequency meter. For receiver's oscillator place probe on oscillator output and tune AUDOLYZER for greatest meter swing. Read frequency on AUDOLYZER'S direct-reading dial. For R.F. determination, connect your signal generator to receiver's input and place AUDOLYZER probe on output of R.F. stage under test. Adjust signal generator and AUDOLYZER to same frequency. Adjust receiver trimmer until receiver dial reads correctly. To determine actual signal fed to I.F. stages connect AUDOLYZER probe to first Det. output, feed a signal into receiver and adjust AUDOLYZER dial until you get maximum swing of its meter needle. Read actual I.F. signal's frequency on AUDOLYZER. Relative gain or loss of signal strength in any stage, tube or transformer can be determined. You can check A.V.C. circuits for correct applied voltage under actual operating conditions. You can adjust A.V.C. circuits. Distortion is easily noted by ear.

Dealer Net Cash Price **$99.95**

SUPREME INSTRUMENTS
Supreme by Comparison



MODEL 592 SET TESTER

Service men who know the principle of Model 592 operation will never go gack to rotary switch or pin jack operation. 44 ranges at your finger tips.

1 Microampere to 14 amps; 8 ranges (1—70/700 microamps; 7/35/140/350 M A; 1.4/14 amps.)

0.1 to 1400 D.C. volts; 7 ranges at 1000 ohms per volt and 7 ranges at 25,000 ohms per volt sensitivity of: (0.1-3.5/7/35/140/350/700/1400). **Double Meter Sensitivity.**

¼ ohm to 50 megs: 6 ranges (¼—500/5,000/50,000/500,000 ohms and 5/50 megs). **All from self contained battery power.**

0.1 to 1400 A.C. volts: 6 ranges 0.1—7/35/140/350/700/1400). Temperature compensated—rectifier guaranteed.

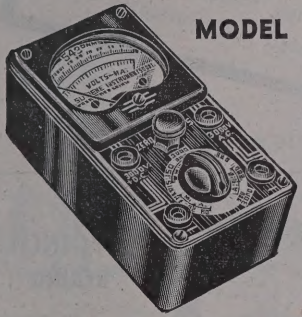
Complete output ranges: 6 ranges (0/7/35/140/350/700/1400). No external condenser necessary.

—0 to +46 D.B.: 4 ranges 0.006 to almost 200 watts—(0/+16; +10/+26; +20/+36; +30/+46).

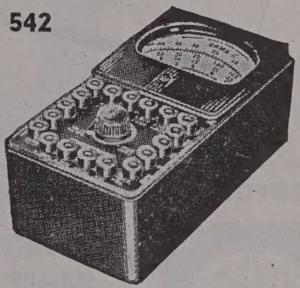
50 meg. resistance range allows very accurate leakage check of all electrostatic paper and mica condensers. New specially designed A.C. rectifier circuit minimizes burnouts from momentary overloads. NO SAFETY SWITCH TO HOLD DOWN. Copper-oxide rectifier GUARANTEED the same as every other part. D.B. (decibel) conversion chart furnished so D.B. readings can also be taken on any line of known impedance. D.B. readings direct from 500 ohm line. SUPREME 592 easiest multimeter to operate—just depress one button on left side of panel for desired function and one button on right side for desired range. One set of pin jacks serve 43 ranges. 14 amps range on separate binding posts. 40 microampere meter movement. Wire wound shunt resistors. Special push-button for quick ohmmeter zero adjustment. Four years actual field use by thousands of Service Men prove the 592 to be TOPS in instrument value.

Dealers Net Cash Price $55.95

MODEL 543



MODEL 542



MULTIMETERS

A POPULAR COMPACT POCKET LABORATORY

MODEL 543 POCKET MULTIMETER

The Model 543 Pocket Multimeter uses the same bakelite case as Model 542. Attractive two-color panel—full size 3″ one-mil meter. A single rotary selector switch provides functions and ranges of: Resistance—0/2000/200,000 ohms; Direct Current—0/6/60/600 M.A.; AC—0/15/150/600/3000 volts; D.C. 0/15/150/600/3000 volts. Batteries furnished and contained within case. Ranges at 1,000 ohms per volt standard sensitivity. With this instrument you can make A.C. and D.C. voltage measurements in radio and television receivers and if you are a "Ham" you can use the high voltage ranges on your transmitter and scope. This is a beautifully designed and rugged little instrument at an astonishingly low price.

Dealer Net Cash Price $16.25

MODEL 542 POCKET MULTIMETER

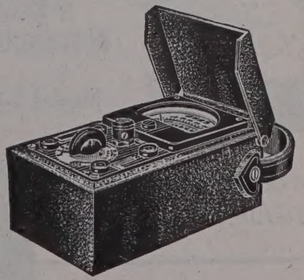
A regular little pocket laboratory with a case only 3 x 5¾ x 2″ in size, weighing but 23 ounces—24 ranges—just as accurate and even more convenient than you would expect to find in an instrument twice its price. 4 DC mil ranges (with first scale division 5 microamperes) of 0/0.3/6/30/150; 4 DC volt ranges (with first scale division 0.1 volt) of 0/6/150/300/1500; 4 ohms ranges (with 1 ohm first scale division and 25 ohms center scale) of 0/2,000/20,000/200,000/2 meg; 4 AC volt ranges (with first scale division 0.1 volt) of 0/6/30/150/600; 4 output ranges of 0/6/30/150/600; 4 decibel ranges of —6/+10, +8/+24, +22/+38, +34/+50. The Model 542 is not a toy—it uses a full size 3″ square meter with a rugged, accurate 200 microampere movement and a knife edged pointer. This movement has a sensitivity of 5000 ohms per volt. All ohmmeter ranges, including the megohm ranges, are operated by batteries furnished with the instrument and contained within its durable black moulded bakelite case.

Dealer Net Cash Price $20.75

BUILT FOR PUNISHMENT

Popular Supreme Model 542 and Model 543 in a Blitzkreig dress—used by the army—and telephone companies—where hard knocks are the rule rather than the exception. Built for Punishment. Heavy steel cover protects meter—snaps into place. Full protection without the inconvenience of the old style lid. Large, sturdy leather handle, but still small enough to slip in your pocket. Size 3½″ x 6¼″ x 2¾″. Wt. 2 lbs. 2 oz.

Model 542 with Metal Case
Dealer Net Cash Price $22.95
Model 543 with Metal Case
Dealer Net Cash Price $17.95



DeJUR U.S.A.

ELECTRICAL INDICATING INSTRUMENTS

• DC VOLTMETERS • DC AMMETERS • DC MICROAMMETERS
• DC MILLIVOLTMETERS • DC MILLIAMMETERS

Construction Features of DeJUR Instruments

- Strong moulded phenolic base, open front for access to movement
- Chrome steel magnet protected by cadmium and tin platings
- Aircraft type bracket
- Beryllium copper balance weights
- Anodized coil frame
- Matched torque to minimize temperature effect
- All brass scale plate
- Static grounding lug
- Scale plate lacquers are fume-proof
- Guaranteed accuracy of plus-minus 2% of full scale

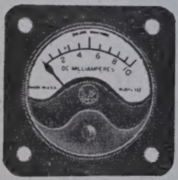
Better Balancing, and a uniform magnetic flux around the moving coil eliminate possibility of calibration error.

Longer Pivot Axis permits more accurate adjustment of jewels and pivot assembly. More easily accessible, too, in event of repair or servicing.

Superior Magnetic Materials . . . Alnico and cobalt are used in conjunction with soft iron pole pieces, thus assuring high torque, fast response and improved performance.

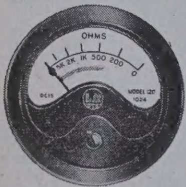
BUILT TO CONFORM WITH GOVERNMENT SPECIFICATIONS

HERMETICALLY SEALED METERS


DC MILLIAMPERES

1½-INCH SQUARE

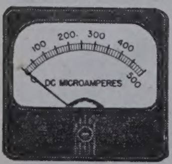
Model 112


OHMS
5K 2K 1K 500 200 0
MODEL 120

1½-INCH ROUND

Model 120

Both models can sustain 30-ft. water immersion for as many as 7 days without harm to the mechanism. A feature of the Model 120 is that it's a one-hole ring-mounting instrument allowing for easy installation without mounting holes or screws. Both are ideal components for all small equipment.


100 200 300 400 500
DC MICROAMPERES

4-INCH RECTANGULAR

Model S-442

DC MILLIAMPERES

2½-INCH ROUND

Model S-210

50 100 150 200 250
DC MILLIAMPERES

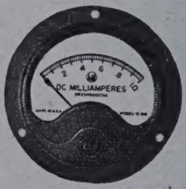
2½-INCH SQUARE

Model S-212

0 2 4 6 8 10
DC MILLIAMPERES

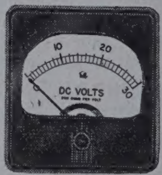
2½-INCH RECTANGULAR

Model S-222


DC MILLIAMPERES

3½-INCH ROUND

Model S-310


10 20 30
DC VOLTS

3½-INCH SQUARE

Model S-312

0 2 4 6 8 10
DC MILLIAMPERES

3½-INCH RECTANGULAR

Model S-322

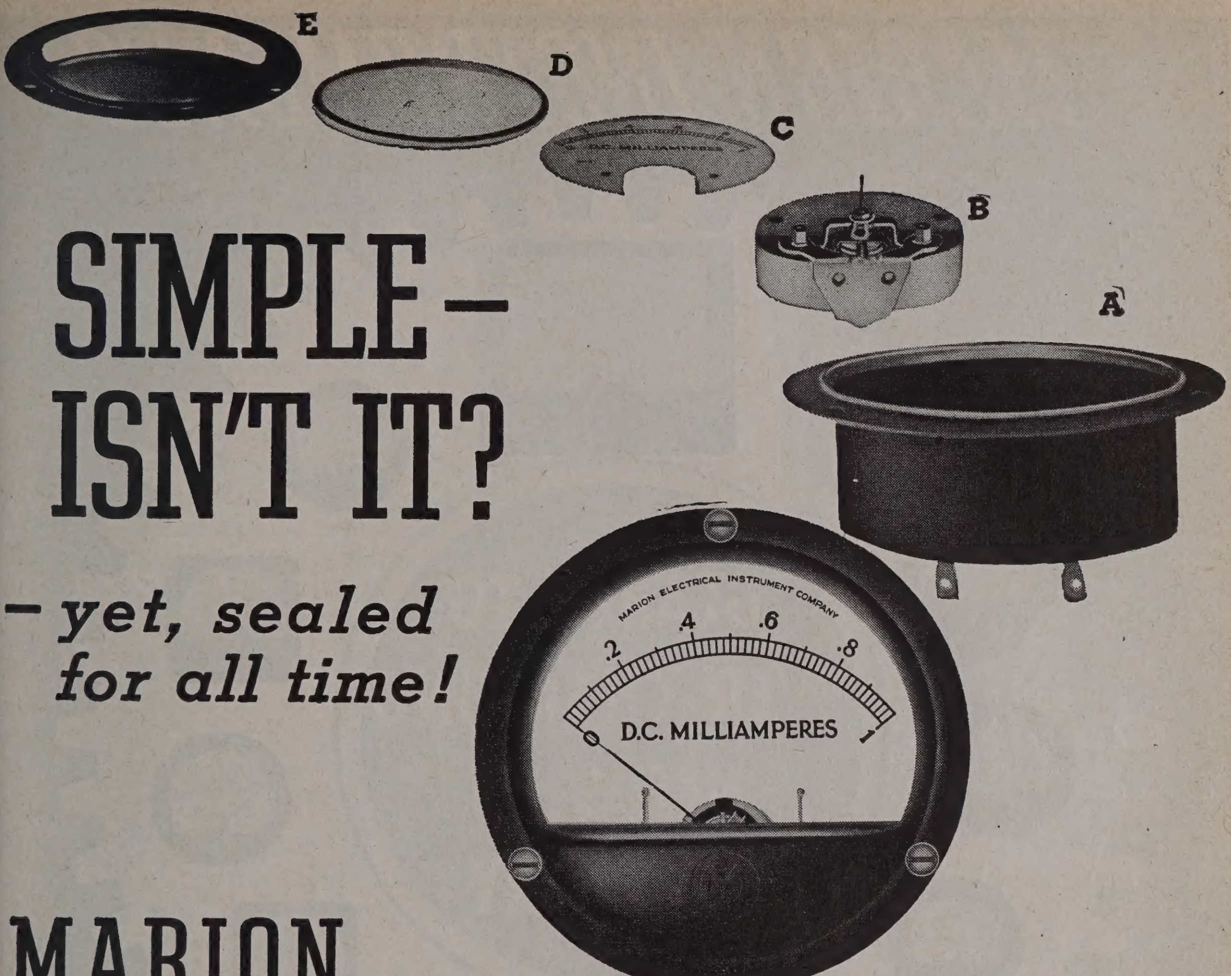
WRITE FOR THE DeJUR CATALOG

DeJUR-AMSCO CORPORATION

ARMY E NAVY

SIMPLE—ISN'T IT?

—yet, sealed for all time!



MARION

Glass-to-Metal Truly Hermetically Sealed 2½" and 3½" Electrical Indicating Instruments

A One-piece drawn steel cup-shaped case with high frequency induction soldered Kovar glass bead terminals. Black phosphate finished to meet 200 hour salt spray test.

B Marion Alnico magnet and moving system, with hardened beryllium copper instrument frame.

C Lithographed metal scale plate, individually printed.

D Double thickness glass window with Corning Glass Works metallized band on rim — high frequency induction soldered to steel case.

E Aluminum cover plate and flange, with anodic black satin finish.

"How is it done?" — this is the question on the tongues of hundreds of engineers from coast-to-coast. A simple basic design in conjunction with electronic production methods is the answer. And with it comes the final solution to the problem of completely tropicalizing electrical indicating instruments. There are no rubber gaskets and no cement seals. These instruments can be immersed in boiling brine or frozen in a cake of ice, for weeks, without deterioration of their seals or harm to their operating efficiency. And they are *positively* interchangeable: Type HM 2 with AWS Types MR 24 and 25 and Type HM 3 with AWS Types MR 34 and 35. Available in all DC ranges, for present or postwar applications. Write for additional information.

SPECIAL NOTE: ***Marion Glass-to-Metal Truly Hermetically Sealed Instruments cost no more than standard unsealed instruments.***

MARION ELECTRICAL INSTRUMENT CO.
MANCHESTER, NEW HAMPSHIRE

MARION INSTRUMENTS
GEARED TO EVER-CHANGING NEEDS OF INDUSTRY
MILLIAMPERES
D.C. MILLIAMPERES
GAUSS
D.C. MILLIAMPERES

War requirements, plus our own design and construction refinements, now provide industry with instruments of heretofore unknown qualities. As new needs arise, we are geared to use our highly specialized, yet diversified, knowledge in solving any measurement problem.

Solid Alnico magnets
Beryllium copper frames
Sintered soft iron pole pieces
Very high torque movements

Our engineering department welcomes inquiries — especially those demanding extra-critical instruments for special applications.

MARION ELECTRICAL INSTRUMENT CO.
MANCHESTER, NEW HAMPSHIRE
Distributed by ELECTRICAL INSTRUMENT DISTRIBUTING CO.
458 BROADWAY • NEW YORK, N. Y.

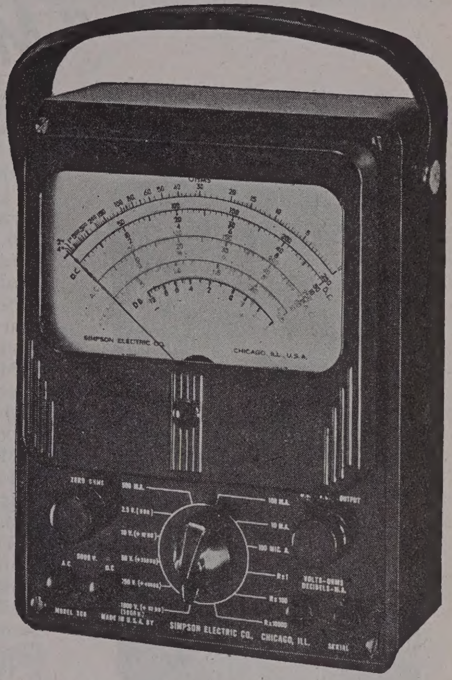
SIMPSON *Instruments that* STAY *accurate*

MODEL 260

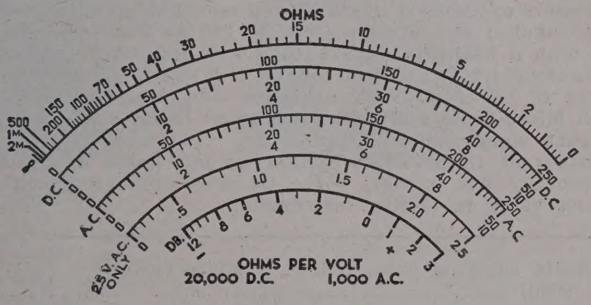
VOLT—OHM—MILLIAMMETER

The New "High Sensitivity" Tester

At 20,000 ohms per volt this instrument is far more sensitive than any other instrument even approaching its price or quality, and covers a wide range of unusual conditions that cannot be checked by ordinary servicing instruments. The practically negligible current consumption assures remarkably accurate full-scale voltage readings, ranging from 2.5 to 5000 volts. Current readings as low as 1 microampere, and as high as 500 milliamperes, are available. Resistance readings are equally dependable, ranging from ½ ohm to 10 megohms. The finely built 4½ inch meter is mounted in a handsome molded bakelite case, which is provided with a leather handle.


ZERO OHMS
OUTPUT
MODEL 260
SIMPSON ELECTRIC CO. CHICAGO, ILL.
VOLTS-OHMS DECIBELS-M.A.

Size: 5½" wide, 7" long, 3" deep. Weight 2½ lbs.


OHMS
D.C.
A.C.
2.5 V. A.C. ONLY
DB.
OHMS PER VOLT
20,000 D.C.
1,000 A.C.

Scale—¾ Actual Size

Dealer's Net Price **$33.25**

Genuine Leather Carrying Case (Cat. No. 8067).......... $4.75

RANGES

(20,000 ohms per volt, D.C.)
(1,000 ohms per volt, A.C.)
Volts, A.C. and D.C.: 0-2.5, 10, 50, 250, 1000, 5000
Output, A. C. Volts: 2.5, 10, 50, 250, 1000, 5000
Milliamperes, D.C.: 0-10, 100, 500
Microamperes, D.C.: 0-50, 100
Decibels: (5 ranges) —10 to +52 DB
Ohms: 0-1000 (12 ohms center)
0-100,000 (1200 ohms center)
0-10 megohms (120,000 ohms center)

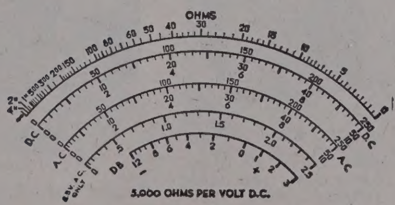
MODEL 215

VOLT—OHM—MILLIAMMETER

5,000 OHMS PER VOLT D.C.
SIMPSON ELECTRIC CO. CHICAGO, ILL.
VOLTS-OHMS DECIBELS-M.A.

Size: 5½" wide, 7" long, 3" deep.
Weight: 2½ lbs.

The Model 215 Tester incorporates all of the essential ranges for modern servicing, both AC and DC. It is the first small, low priced instrument to incorporate a large 4½ inch meter, with a long, easy-to-read scale—before now available only in Simpson higher priced Testers. Handsome molded bakelite case has leather handle for easy carrying. Pair of test leads furnished with each instrument.


OHMS
D.C.
A.C.
DB
5,000 OHMS PER VOLT D.C.

Scale—½ Actual Size

RANGES

(5000 ohms per volt D.C.; 1000 ohms A.C.)
Volts, A.C. and D.C.: 0-2.5, 10, 50, 1000, 5000
Output, A.C. Volts: 2.5, 10, 50, 250, 1000, 5000
Milliamperes, D.C.: 0-10, 100, 500
Microamperes, D.C.: 0-250
Decibels: (5 ranges) —12 to —52 DB
Ohms: 0 to 4000 (30 ohms center); 0 to 400,000 (3000 ohms center); 0 to 4 megohms (30,000 ohms center)

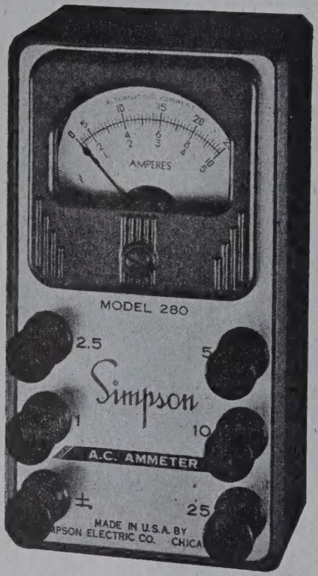
Dealer's Net Price.......... **$27.75**

Genuine Leather Carrying Case (Cat. No. 8067).......... $4.75

SIMPSON *Instruments that* STAY *accurate*

"Micro-Testers"

MEET EVERY TESTING REQUIREMENT


AMPERES
MODEL 280
2.5
5
Simpson
1
10
A.C. AMMETER
±
25
MADE IN U.S.A. BY
SIMPSON ELECTRIC CO. CHICA

MODEL 280

A.C. Ammeter. Half actual size.

Ranges: 0-1, 0-2.5, 0-5, 0-10, 0-25 amps.

Dealer's net price **$11.75**

THE Simpson Micro-Testers represent a new idea in the form and use of testing instruments. Each of these compact, finely built instruments covers a complete zone of electrical measurements. Model 280, at left, for example, is the first low cost A.C. ammeter ever offered that combines an indicating instrument with a current transformer—that provides readings in five different ranges. Models 280 to 288 inclusive blanket 55 ranges of current, voltage and resistance. Any three can be combined in a handy carrying kit to provide a low cost combination unit that will meet practically any testing requirement.

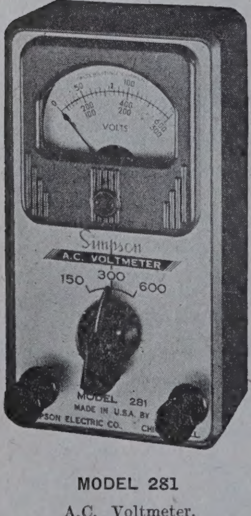
Micro-Testers can perform a vital service in industrial plants—in some cases replacing high priced laboratory instruments, in most cases replacing panel instruments used in production testing and in all cases becoming a handy portable supplement to them.

Micro-Tester Models 230, 235 and 240 (see p. F-28) are small combination instruments for use where narrower ranges will meet the requirements. Model 245, which tests batteries the right way, under load, completes the line.

All Micro-Testers are housed in sturdy red moulded bakelite cases with matching red bakelite meter cases. Models 280 to 288, inclusive, have metal panels with a beautiful silver-satin finish and are furnished with binding posts. Models 230, 235, 240 (see p. F-28) and 245 have bakelite panels because of the high voltage ranges and incorporate jacks as illustrated. **All Micro-Testers are the same small handy size—2⅞" x 5¼" x 1¾"—and each weighs about 20 ozs.**

The low prices of these Micro-Testers do not mean a sacrifice of quality or accuracy but, rather, serve as proof that Simpson offers today's greatest value in testing instruments.

Sturdy leatherette carrying case to hold 3 Micro-Testers (Cat. No. 8089)	**$3.25**
Individual leather cases (Cat. No. 8032)	**2.75**
Test leads with prods	**1.25**
Test leads with alligator clips and insulated sleeves	**1.25**

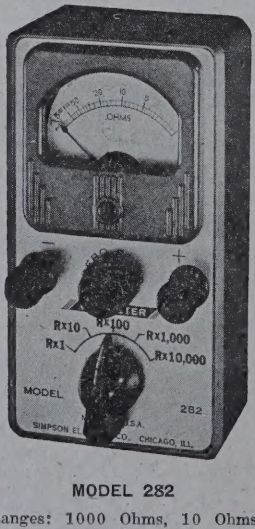

VOLTS
Simpson
A.C. VOLTMETER
150
300
600
MODEL 281
MADE IN U.S.A. BY
SIMPSON ELECTRIC CO. CHI

MODEL 281

A.C. Voltmeter.

Ranges: 0-150, 0-300, 0-600 volts.

Dealer's net price **$11.25**


OHMS
−
+
Rx10
Rx100
Rx1
Rx1,000
Rx10,000
MODEL
282
SIMPSON EL
CO., CHICAGO, ILL.

MODEL 282

Ranges: 1000 Ohms, 10 Ohms center; 10,000 Ohms, 100 Ohms center; 100,000 Ohms, 1000 Ohms center.

1 Megohm, 10,000 Ohms center; 10 Megohms, 100,000 Ohms center.

Dealer's net price **$11.75**

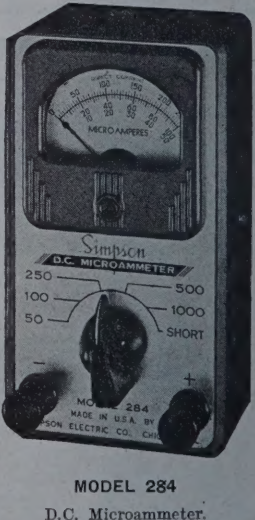
MILLIAMPERES
Simpson
D.C. MILLIAMMETER
50
25
10
5
1
100
250
500
1000
SHORT
+
MODEL 283
MADE IN U.S.A. BY
SIMPSON ELECTRIC CO. CHIC

MODEL 283

D.C. Milliammeter.

Ranges: 0-1, 5, 10, 25, 50, 100, 250, 500, 1000 MA.

Dealer's net price **$11.25**


MICROAMPERES
Simpson
D.C. MICROAMMETER
250
100
50
500
1000
SHORT
−
+
MODEL 284
MADE IN U.S.A. BY
SIMPSON ELECTRIC CO. CHI

MODEL 284

D.C. Microammeter.

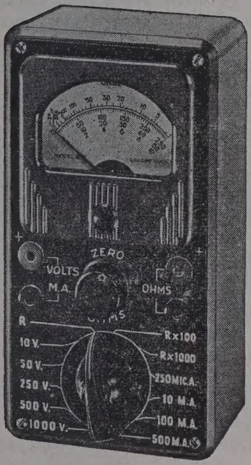
Ranges: 0-50, 100, 250, 500, 1000 Microamps.

Dealer's net price **$11.75**

SIMPSON *Instruments that* STAY *accurate*

"Micro-Testers"

MEET EVERY TESTING REQUIREMENT

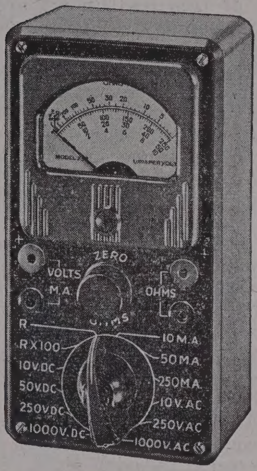

ZERO
VOLTS
M.A.
OHMS
R
10 V.
50 V.
250 V.
500 V.
1000 V.
Rx100
Rx1000
250MICA.
10 M.A.
100 M.A.
500 M.A.

MODEL 230

A.C. & D.C. Volt Ohm Milliammeter.

Ranges: 0-10, 250, 1000 A.C. Volts; 0-10, 50, 250, 1000, D.C. Volts; 0-10, 50, 250 D.C. Milliamperes; 0-1000 ohms; 0-100000 ohms.

Dealer's net price............**$17.25**


ZERO
VOLTS
M.A.
OHMS
R
RX100
10V.DC
50V.DC
250V.DC
1000V.DC
10 M.A.
50 M.A.
250 M.A.
10 V. AC
250 V. AC
1000 V. AC

MODEL 235

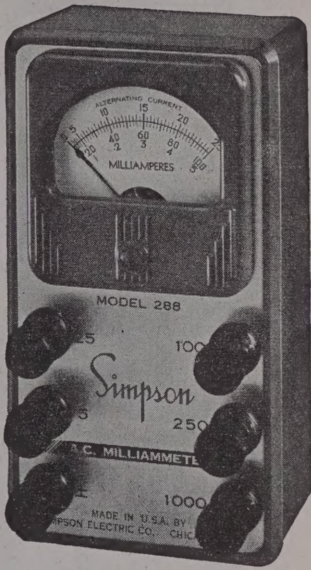
D.C. Volt Ohm Milliammeter.

Ranges: 0-10, 50, 250, 500, 1000 Volts' 0-10, 100, 500 milliamperes; 0-250 microamperes; 0-2000 ohms; 0-200000 ohms; 0-2 megohms.

Dealer's net price............**$12.00**

NOTE

MODEL 240
"HAMMETER"
IS
DESCRIBED
ON
NEXT PAGE

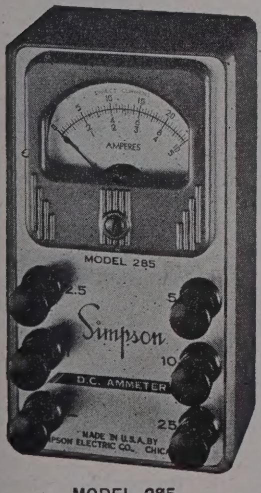

ALTERNATING CURRENT
MILLIAMPERES
MODEL 288
Simpson
A.C. MILLIAMMETER
MADE IN U.S.A. BY SIMPSON ELECTRIC CO. CHIC

MODEL 288

A.C. Milliammeter.

Ranges: 0-5, 0-25, 0-100, 0-250, 0-1000 M.A.

Dealer's net price **$11.75**

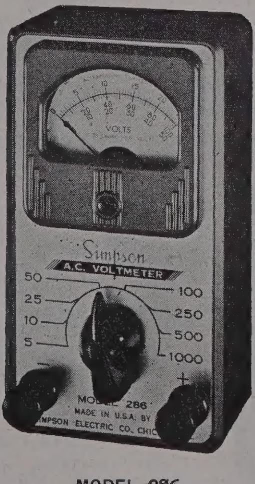

AMPERES
MODEL 285
Simpson
D.C. AMMETER
MADE IN U.S.A. BY SIMPSON ELECTRIC CO. CHIC

MODEL 285

D.C. Ammeter.

Ranges: 0-1, 0-2.5, 0-5, 0-10, 0-25 Amperes.

Dealer's net price............**$11.25**

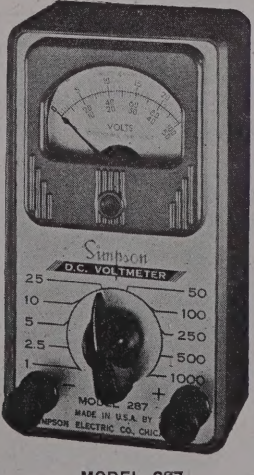

VOLTS
Simpson
A.C. VOLTMETER
MODEL 286
MADE IN U.S.A. BY SIMPSON ELECTRIC CO. CHIC

MODEL 286

A.C. Voltmeter (Rectifier type).

Ranges: 0-5, 10, 25, 50, 100, 250, 500, 1000 Volts.

Dealer's net price **$11.75**

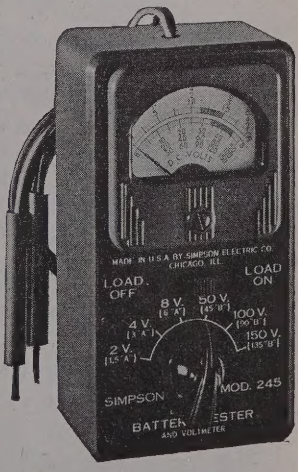

VOLTS
Simpson
D.C. VOLTMETER
MODEL 287
MADE IN U.S.A. BY SIMPSON ELECTRIC CO. CHIC

MODEL 287

D.C. Voltmeter.

Ranges: 0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 Volts.

Dealer's net price..........**$11.25**


D.C. VOLTS
MADE IN U.S.A. BY SIMPSON ELECTRIC CO. CHICAGO, ILL.
LOAD OFF
LOAD ON
SIMPSON
MOD. 245
BATTERY TESTER AND VOLTMETER

MODEL 245

Load type Battery Tester and Voltmeter.

Ranges: 0-2, 4, 8, 50, 100, 150 Volts. Tests all dry batteries correctly—under load.

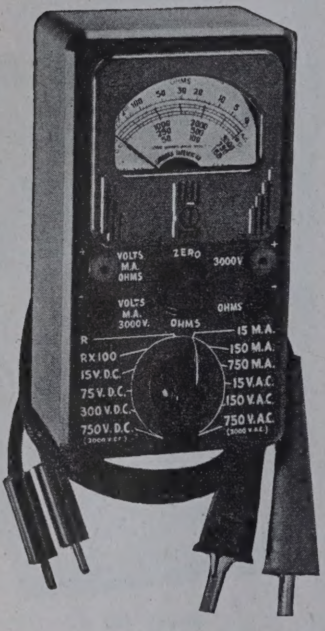
Dealer's net price **$9.75**

SIMPSON *Instruments that* STAY *accurate*

"Micro-Testers"

MEET EVERY TESTING REQUIRMENT

MODEL 240 "HAMMETER"



Model 240

THE Simpson "Hammeter" answers the amateur's vital need for a compact, all-purpose tester.

The range and utility of this instrument are far greater than its small size or modest price would indicate—it is a 3000 volt, self contained unit (no external multipliers necessary). A copper oxide rectifier is built into the meter for A.C. voltage ranges and a battery is provided for both ohmmeter ranges. By adding an external condenser in series with A.C. voltage ranges it may be used as an output meter for checking receivers.

Completely encased in bakelite, the Hammeter is shockproof in every detail. The test cables for instance are insulated for 5000 Volts—a 2,000 volt margin of safety. Well insulated tips for plugging into jacks are provided, and the Alligator clips with ample rubber sleeves as illustrated provide a safe means for making high voltage connections.

The typical Simpson beauty of design is apparent in the illustration. The panel is black Formica with distinct gold characters. A knife-edge pointer gives sharp readings on a handsome silver-etched scale with clear black and red characters.

WIDE UTILITY

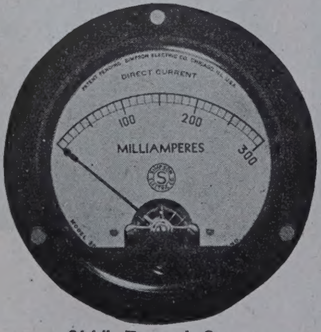
The "Hammeter" is the answer to every need for testing all component parts and circuits when constructing transmitters. It is indispensable for trouble shooting—quickly locating the flaws in transmitters and receivers—checking A.C. or D.C. filament voltage, line voltage and transformer voltage on high A.C. ranges. Extremely high voltage may be checked by measuring to the center tap from each side.

Other tests that can be made with the Hammeter include: Checking grid bias, screen and plate voltage on the lower D.C. voltage ranges—checking power supply D.C. voltages in accordance with latest requirements—checking grid, screen, and plate current of any tube—checking current of carbon microphones. With its self-contained battery, the Hammeter is an excellent continuity meter and will save many hours in construction by locating fauty connections.

RANGES

Volts: A.C.—0-15, 150, 750, 3000; D.C.—0-15, 75, 300, 750, 3000.
Milliamperes, D.C.: 0-15, 0-150, 0-750.
Ohms: 0-3000 (center 30); 0-300000 (center 3000).
Resistance 1000 Ohms per volt both A.C. and D.C.
Dealer's net price **$18.00**

SIMPSON Round and Rectangular INSTRUMENTS
AVAILABLE IN DC, AC, RF, AND RECTIFIER TYPES
Available in All Standard Ranges
Voltmeters, Ammeters, Milliammeters, Microammeters



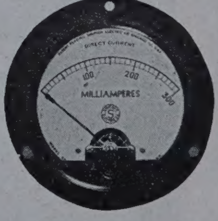
3½" Round Case

Flange diameter, 3½"; depth overall, 1⅞"; body diameter, 2¾"; scale length 2 9/16". Bakelite case.
Model 25—Direct Current.
Model 35—Radio Frequency.
Model 45—Rectifier Type.
Model 55—Alternating Current.

DIRECT CURRENT
.2
.4
.6
.8
MILLIAMPERES

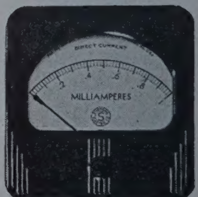
3" Rectangular Case

Width, 3"; height 3⅛". Mounts in round hole. Body diameter 2¾". Bakelite case.
Model 27—Direct Current.
Model 37—Radio Frequency.
Model 47—Rectifier Type.
Model 57—Alternating Current.



2½" Round Case

Flange diameter, 2¾"; depth overall, 1⅝" body diameter, 2 3/16"; scale length 1⅞". Metal case—rim type. Bakelite case—wide flange.
Model 125—Direct Current.
Model 135—Radio Frequency
Model 145—Rectifier Type.
Model 155—Alternating Current.



2" Rectangular Case

2⅜" square. Mounts in round hole—body diameter, 2 3/16". Bakelite case.
Model 127—Direct Current.
Model 137—Radio Frequency
Model 147—Rectifier Type.
Model 157—Alternating Current.

HICKOK TEST EQUIPMENT

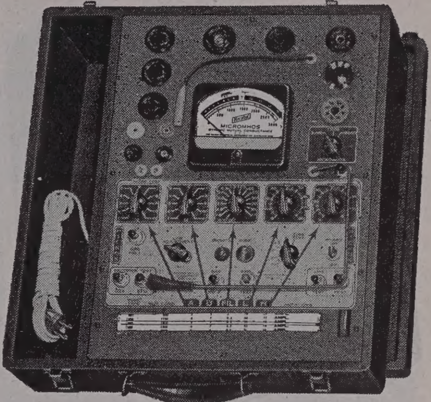
DYNAMIC MUTUAL CONDUCTANCE TUBE TESTERS

Models 532P and 532C — Hickok Tube Testers — Easy to Operate

The HICKOK is the only tester that provides both English-reading and Micromho scales, and it is the only one that contains an accurate and dependable gas test. Gassy tubes ruin A.V.C. and I.F. stages. Its design is compact and convenient—its operation is extremely simple. It is the choice of engineers of the highest standing.

The HICKOK uses two rectifiers to energize both plates and grids; has a filament voltage up to 117 in steps; detects frequency disturbances with its sensitive noise test; locates shorts—hot or cold; tests diodes separately with low voltage to prevent paralysis of the elements; gives accurately-calibrated line test indication on a large test meter and offers a continuous adjustment of line voltage from 100 to 130 volts.

Tested and demonstrated by expert technicians who probe the effectiveness of all Octal, Loktal, Miniature, Ballast and Magic Eye tubes. These HICKOK Tube Testers are foolproof; they record all tube data on a roll chart. Compactly built, conveniently designed, and easy to operate.


MODEL 532P

MODEL 532C

SPECIFICATIONS:

Model 532P
Size: 15" x 14¾" x 6½". **Weight:** 24 lbs. **Power Supply:** 110-120 volts, 50-60 cycles. **Cabinet:** Hardwood covered with imitation black leather. **Tube Complement:** 1 No. 83; 1 No. 5Y3GT, supplied and installed.

Model 532C
Size: 15" x 14" x 6½". **Weight:** 24 lbs. **Power Supply:** 110-120 volts, 50-60 cycles. **Cabinet:** All steel, finished in baked blue crackle lacquer. **Tube Complement:** 1 No. 83; 1 No. 5Y3GT, supplied and installed.

DISPLAY TUBE MERCHANDISER

Model 532D

This counter display instrument sells radio tubes most effectively. Imposing appearance creates confidence, stimulates tube sales by showing weak reading of bad tubes to the customer. Built with the HICKOK basic dynamic mutual conductance circuit and a 9" square micromho meter with illuminated dial. An additional four inch square line voltage meter enables you to make more precise tests. Detailed features are the same as those built into the 532P and 532C.

SPECIFICATIONS
Size: 25" x 14" x 12". **Weight:** 34 lbs. **Power Supply:** 110-120 volts, 50-60 cycles. **Tube Complement:** 1 No. 83; 1 No. 5Y3GT, supplied and installed. **Structure:** All steel cabinet. **Finish:** Baked, blue crackle lacquer.

DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER
REPLACE ? GOOD
500 1000 1500 2000 2500 3000
MICROMHOS
HICKOK
A.C. VOLTMETER
MODEL 532D

TEST DATA
DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER 545
MODEL 545

COMPACT TUBE TESTER

Model 545

Most compact of all the HICKOK tube testers, yet contains all the features of the Model 532P except the roll chart. The test data is printed on loose leaf sheets mounted in cover. Sturdy all-steel cabinet with removable cover makes it ideal instrument to toss into car for a hurry-up trip.

SPECIFICATIONS:
Size: 15½" x 8" x 5½" **Weight:** 20 lbs. **Power Supply:** 110-120 volts, 50-60 cycles. **Tube Complement:** 1 No. 83; 1 No. 5Y3GT, supplied and installed. **Finish:** Blue baked crackle lacquer.

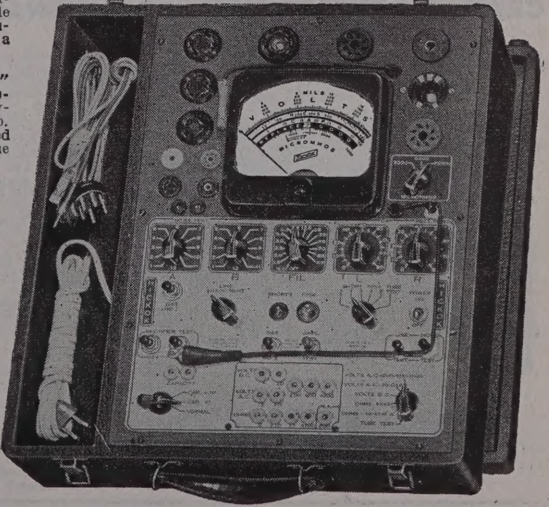
ALL-PURPOSE TUBE AND SET TESTER

Model 534

Designed for the service man as an all-purpose tester. Tube test features are the same as in Model 532P, but roll chart has been omitted. Mounting panel has been enlarged to accommodate a complete analyzer unit.

FEATURES: Measures volts, ohms, milliamperes, capacity, inductance, leakage, and decibels. Volts in four ranges 0-20-200-500-1000 A.C. and D.C. 1000 ohms per volt for all ranges. Electronic rectifiers used in patented circuit assuring linear scale for all ranges. D.C. Milliamperes 0-20-200. — Ohms 1/10 ohm to 25 megohms in three overlapping ranges. No batteries used. Capacity .0001 to 50 microfarads in overlapping ranges. — Checks leakage of electrolytic or paper condensers. — Checks inductance of choke coils. — Checks hum in any stage of receiver. — Has rectangular five-inch meter for easy reading. — Portable black imitation leather-covered hardwood cabinet with detachable cover.

SPECIFICATIONS:
Size: 15" x 14¾" x 6½". **Weight:** 25 lbs. **Power Supply:** 110-120 volts, 50-60 cycles. **Tube Complement:** 1 No. 83; 1 No. 5Y3GT; 2 No. 6H6, supplied and installed.



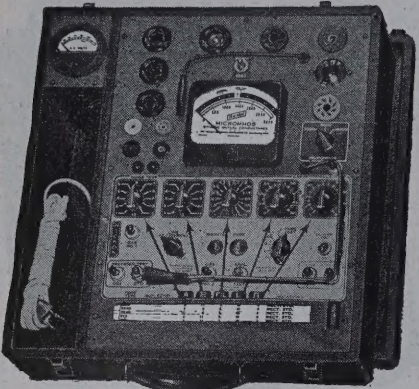
MODEL 534

HICKOK TEST EQUIPMENT

PROFESSIONAL TUBE TESTER

Model 536

Contains all the features found in Model 532P plus ADDITIONAL FEATURES of particular value to the exacting technician. Recommended for use in laboratories, telephone and telegraph offices where electronic repeaters are used, sound equipment installations, etc. In addition to the micromho meter, it has a line voltage meter which indicates voltage while the tube is being tested. By pressing a button this meter will accurately measure the voltage at the power socket. A special feature is the thermionic efficiency test which reveals the probable life of the tube being tested and insures uninterrupted service. Also permits exact matching of tubes. Instrument is mounted in a hardwood, black imitation-leather covered cabinet with removable cover. **SPECIFICATIONS:—Size:** 15″ x 14¾″ x 6½″. **Weight:** 26 lbs. **Power Supply:** 110-120 volts, 50-60 cycles. **Tube Complement:** 1 No. 83; 1 No. 5Y3GT, supplied and installed.



MODOL 536

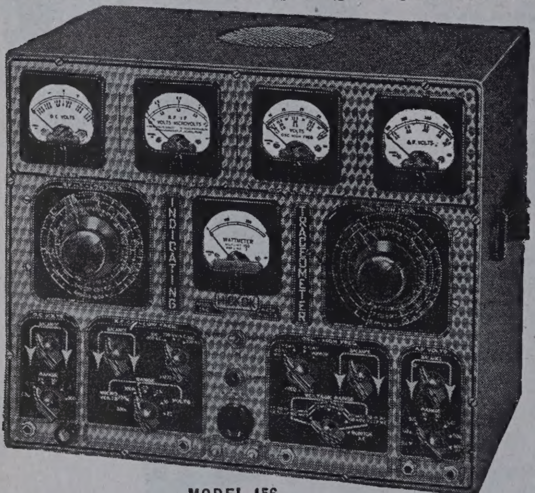
COMBINATION TUBE TESTER AND CIRCUIT ANALYZER

For the Technician — Model 538

This DE LUXE test equipment contains all the tube testing features of Model 536 including the thermionic efficiency life test. In addition, it is equipped with the analyzing section as supplied with Model 534. A line voltage meter provides constant voltage reading. Also accurately measures voltage at the power socket. The micromho indicating meter is five inches square. Recommended for laboratory, telephone, telegraph, aircraft, and railway electronic testing.

SPECIFICATIONS:—Size: 15″ x 14¾″ x 6½″. **Weight:** 26 lbs. **Power Supply:** 110-120 volts, 50-60 cycles. **Tube Complement:** 1 No. 83; 1 No. 5Y3GT; 2 No. 6H6, supplied and installed.

MODEL 538



MODEL 156

INDICATING TRACEOMETER

Model 156

The latest, most advanced and most complete equipment for signal tracing and rapid servicing of frequency modulated, amplitude modulated and television receivers.

A built-in speaker for monitoring either I.F. or R.F. or A.F. channels. With the five precision meters, A.C., D.C., R.F. and I.F. voltage, wattage and frequency measurements can be made and the signal traced throughout the entire receiver without interfering with normal operation.

Seven simultaneous measurements are possible; two frequency measurements, four voltage measurements and one wattage measurement. Vacuum tube voltmeter circuits are so arranged that accidental over voltage cannot damage meters.

SPECIFICATIONS: Size: 13″ x 16″ x 10″. **Shipping Weight:** 22 lbs. **Power Supply:** 105-130 volts, 50-60 cycles. **Finish:** Baked crackle lacquer.

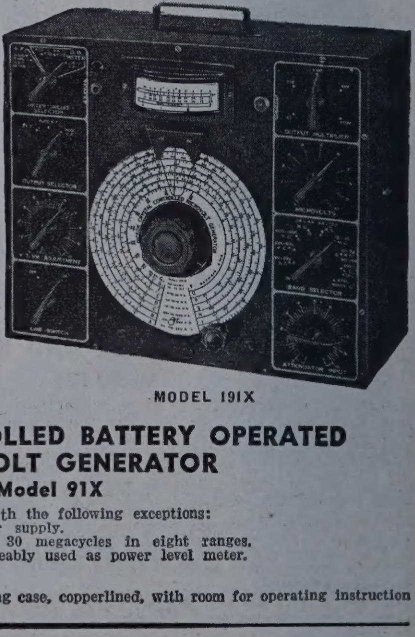
CRYSTAL CONTROL MICROVOLT SIGNAL GENERATOR

Model 191X

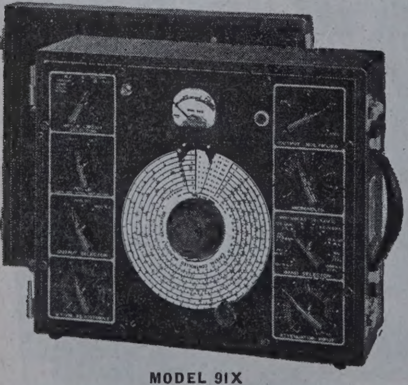
Calibrated output in microvolts from 90 kilocycles to 72 megacycles. Standardized by a self-contained vacuum tube voltmeter. Permits selectivity and sensitivity measurements. Self-contained decibel meter calibrated in 3 ranges from —10 to +38 decibels. Self-contained crystal controlled oscillator giving signals every 100 KC with accuracy of .01 per cent from 100 kilocycles, to over 15,000 kilocycles, and from 1,000 KC to over 150 megacycles every megacycle.

Over 100″ of direct reading frequency scales with accuracy better than 1 per cent. Radio frequency ranges calibrated to 144 megacycles.

SPECIFICATIONS:
Size: 13″ x 16″ x 7″. **Shipping Weight:** 33 lbs. **Power Supply:** 105-130 volts AC, 50-60 cycles. **Cabinet:** Finished in baked crackle lacquer.



MODEL 191X



MODEL 91X

CRYSTAL CONTROLLED BATTERY OPERATED MICROVOLT GENERATOR

Model 91X

Model 91X is similar to Model 191X with the following exceptions:
1. Self-contained battery operated power supply.
2. Frequency coverage—15 kilocycles to 30 megacycles in eight ranges.
3. Vacuum tube voltmeter not interchangeably used as power level meter.
4. Size—14¾″ x 9¼″ x 19″.
5. Shipping weight—60 lbs.
6. A sturdy leatherette-covered oak carrying case, copperlined, with room for operating instruction manual and cables.

HICKOK TEST EQUIPMENT

UNIVERSAL CRYSTAL CONTROLLED SIGNAL GENERATORS

Models 277X and 288X

Models 277X and 288X Universal Crystal Controlled Signal Generators are specifically designed for use in connection with frequency and amplitude modulated receivers and television equipment. The wide range of output selections found in the Models 277X and 288X Signal Generators meets with all requirements for universal radio and television servicing.

Models 277 and 288 are identical electrically to Models 277X and 288X and are wired for crystal control but the crystal or 6J5 crystal tube is not included. Crystal and tube can be installed at any later date without returning the signal generator to the factory.

HICKOK
SIGNAL GENERATOR

MODEL 277X

HICKOK
SIGNAL GENERATOR

MODEL 288X

SPECIFICATIONS—288X

Size: 13" x 13" x 7". **Finish:** Baked crackle lacquer. **Shipping Weight:** 28 lbs. **Power:** The Oscillator includes a complete built-in power supply consisting of a transformer, rectifier and filter. It may be operated from any 110 volt A.C. line, 50 to 65 cycles, other voltage and frequencies available at slight additional cost.

UNIVERSAL VACUUM TUBE VOLTMETER

Model 110B

A precision vacuum tube voltmeter permitting A.C. and D.C. voltage measurements with a minimum of loading on the circuits under task.

A.C. Voltage measurements independent of frequency to over 300 megacycles. Extended D.C. voltage ranges to 10,000 volts.

A.C. VOLTMETER RANGES 0 to 2½-10-50-250 volts R.M.S. Input impedance—5 micro-microfarads 15 megohms.

FREQUENCY RANGE—10 cycles to over 300 megacycles.

ZERO ADJUST—Single zero adjustment sets zero on all A.C. voltage ranges.

A.C. VOLTMETER PROBE—A type 9006 ultra high-frequency diode tube is used in the A.C. Voltmeter tube.

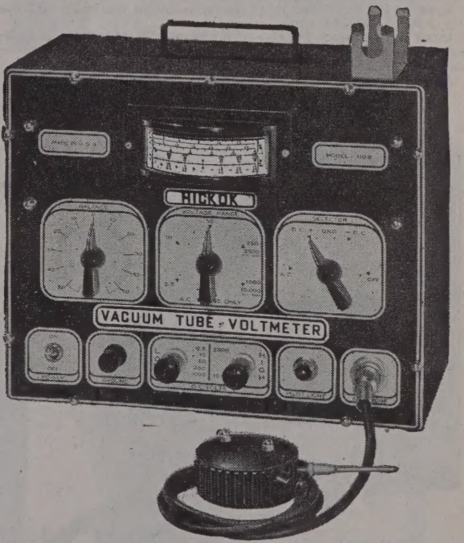
D.C. VACUUM TUBE VOLTMETER—Ranges—from 0-2½-10-50-250-1000, with input impedance of approximately 10 megohms. Extended D.C. voltage ranges of 2500 and 10,000 volts with input impedance of approximately 100 megohms.

SELF-CONTAINED VOLTAGE REGULATION.

ACCESSORIES—Supplied complete with all necessary cables.

SPECIFICATIONS:

Size—7¼" x 10¾" x 12½". **Finish**—Baked crackle lacquer. **Shipping Weight**—25 lbs



MODEL 110B

AUDIO FREQUENCY SIGNAL GENERATOR

Model 198

Designed to provide a laboratory standard audio frequency Signal Generator in a compact, portable and rugged instrument giving in three ranges audio frequency output from 20 to 20,000 cycles. The signal generator is of the resistance capacity type with automatic stabilization and degeneration.

RANGES: 20-200, 200-2000, and 2000-20,000 cycles.

OUTPUT POWER: 250 milliwatts.

OUTPUT IMPEDANCE: 10, 250, 500 and 5000 ohms.

HUM LEVEL: 60 DB below maximum output.

FREQUENCY CHARACTERISTICS: Plus or minus 1 DB, 60 to 20,000 cycles.

ACCURACY: 2% or 1 cycle.

SPECIFICATIONS:

Power Supply: 105 to 120 volts, 50-60 cycles A.C. 35 Watts. **Construction:** Entire unit is ruggedly constructed in a steel cabinet with the main tuning dial and condenser mounted in ball bearings. **Tube Complement:** 1 Type 6X5GT, 1 Type 6SJ7, 1 Type 6V6, and 1 Type 6SN7. **Weight:** 17 lbs. **Dimensions:** 11⅞" x 10⅜" x 7".

HICKOK
SIGNAL GENERATOR

MODEL 198

HICKOK TEST EQUIPMENT

OSCILLOGRAPH

Model 305

The One Oscillograph Specifically Designed for Frequency Modulated—Amplitude Modulated and Television Servicing. For Complete Visual Analysis Self-contained Wide Band F.M. Oscillator, Narrow Band F.M. Oscillator, Demodulator, Video Amplifiers, Signal Tracer, Visual A.C. Vacuum Tube Voltmeter 0.2 to 1000 Volts.

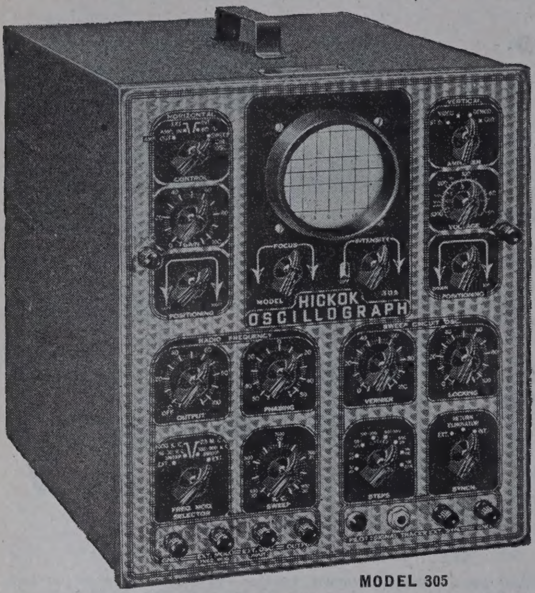
USE: This Oscillograph in both R.F. and I.F. stages.

ADDITIONAL IMPORTANT FEATURES

1. Return trace eliminator. 2. High sensitivity amplifiers (0.2 volts per inch). 3. Calibrated screen. 4 Video Amplifiers. 5. Variable width frequency modulated sweep. 6. Pilot light. 7. Phasing control.

SPECIFICATIONS

Power Supply: 110-120 volts, 50-60 cycles. **Size: 11" x 13" x 15¼". Finish:** Baked crackle lacquer. **Shipping Weight:** 55 lbs.


HICKOK
OSCILLOGRAPH
MODEL 305

MODEL 305

CATHODE RAY OSCILLOGRAPH

Model 193

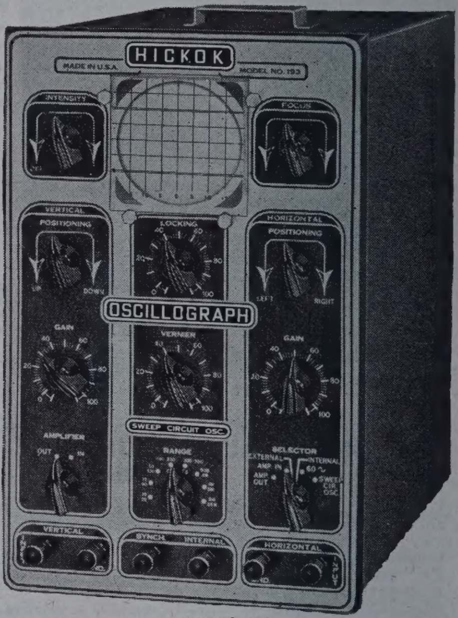
Designed for a small compact portable instrument for field and laboratory use where compactness and light weight are essential.

Type 3AP1 three-inch high vacuum electro statically deflected cathode ray tube. Accelerating Potential—1000 volts.

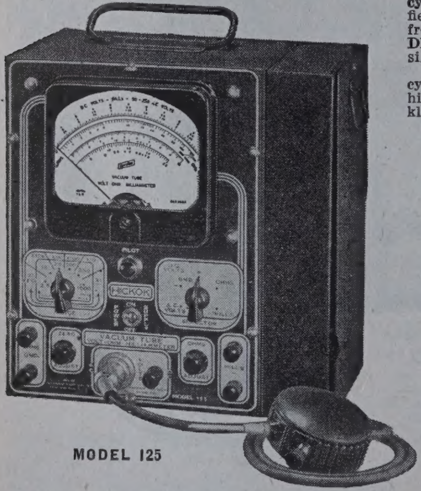
Input Impedance: Y axis—1 megohm—20 micro-microfarads—through amplifier. Y axis—3 megohms—20 micro-microfarads—direct. X axis—1 megohm—25 micro-microfarads—through amplifier. X axis—3 megohms—25 micro-microfarads—direct.

Amplifier Frequency Response: Y axis—sign wave response—uniform within 3DB from 10 cycles to 100 kilocycles. Y axis—amplifier gain—approximately 150. X axis—frequency response—uniform within 3 DB from 10 cycles to 100 kilocycles—sign waves. X axis—voltage gain—125.

Power Supply: 110-130 volts, 50-60 cycles, 50 watts. **Size:** 8½" wide, 13" high, 15¼" deep. **Finish:** Baked crackle lacquer. **Shipping Weight:** 30 lbs.


HICKOK
MADE IN U.S.A.
MODEL NO. 193
INTENSITY
FOCUS
VERTICAL POSITIONING
LOCKING
HORIZONTAL POSITIONING
OSCILLOGRAPH
GAIN
VERNIER
AMPLIFIER
SWEEP CIRCUIT OSC
RANGE
SELECTOR
VERTICAL
SYNCH. INTERNAL
HORIZONTAL

MODEL 193


HICKOK
VACUUM TUBE

MODEL 125

VACUUM TUBE VOLT OHM MILLIAMMETER

Model 125

Combines the desirable features of the vacuum tube voltmeter with other features of D.C. volts, ohms and milliampere measurements found in Model 203, Electronic Volt-Ohm-Milliammeter. Has a wide application in laboratories as well as many radio service shops.

A.C. Voltage Ranges: 0-2.5-10-25-100-250. **Frequency Characteristics:** 60 cycles to 300 megacycles. **Input Impedance:** 5 mmfd. shunted by 15 megohms.

D.C. Vacuum Tube Voltmeter—Ranges: 0-2.5-10-25-100-250-1,000 volts. **Electronic Ohmmeter**—Five ranges permitting measurements from .1 of one ohm to 1,000 megohms with no zero reset required when changing ranges.

SPECIFICATIONS: Size: 11" x 7" x 10". Cable Compartment: Supplied on the side of the case for all test leads and power cord. **Power Supply:** 100-130 volts, 50-60 cycles, 20 watts. **Finish:** Baked crackle lacquer. **Shipping Weight:** 23 lbs.

ELECTRONIC A.C.-D.C VOLT-OHM MILLIAMMETER

For Radio Service Shops and Laboratories

Model 203

A small, practical, compact universal test instrument for the radio shop and laboratory providing for A.C.-D.C. voltage measurements with extremely high input impedance permitting voltage measurements to be made without affecting the circuit under test. Also incorporated is an electronic ohmmeter permitting resistance measurements from .1 of one ohm to 1,000 megohms. A conventional milliampere meter is also provided, giving in 5 ranges, measurements to one ampere.

SPECIFICATIONS

Size: 7½" d. x 8" w. x 10½" h.
Shipping Weight: 14 lbs.
Finish: Baked crackle lacquer.

A.C. VOLTS
D.C. MILS
OHMS
ELECTRONIC VOLT-OHM-MILLIAMMETER
PILOT
D.C. VOLTS
A.C. VOLTS
OHMS
MILLS
SELECTOR
RANGE
HICKOK
POWER SUPPLY
ZERO ADJUST
ELECTRONIC VOLT-OHM-MILLIAMMETER
VOLTS
SERIES B

MODEL 203

HICKOK TEST EQUIPMENT

VOLT-AMPERE WATTMETER

Model 900

Electrical Appliance Tester and Circuit Analyzer. True to the Finest Hickok Tradition

For Measuring Actual Load Values of Volts, Amperes and Watts. Indicates: A.C. Watts: 0-20-100-500-1000-2000. **A.C. Amperes:** 0-1.3-6.5-13-26. **A.C. Volts:** 0-130-260. **A.C Milliamperes:** 0-260.

Scale is 3¾" long, clear and legible. The Model 900 Volt-Amp-Wattmeter has been designed for all A.C. appliance-testing, from bell transformers and clocks to electric ranges operating on the 220-volt three-wire Edison system. The extremely low range of 0-20 watts will measure the power consumed by the smallest of appliances and is protected from accidental overload by a fuse. For measuring electric ranges the Number 9A and 9B special leads are available with standard three-wire range connectors. It tests appliances while in actual operation, indicating wattage consumption, amperes, and line voltage.

Mounted in a durable pressed steel case with strap handle and rubber bumpers. The wear-proof metal panel has markings and designations permanently embossed. Detachable leads, for small appliances, are furnished. Test leads with prods also included.

Service men will find a wattmeter especially handy for checking all A.C. sets.

Part No. C-105—This external current transformer is designed to give ranges of 5,000 and 10,000 watts and 65 and 130 amperes when used with Model 900. Part No. C-105 transformer may be installed in lead compartment of carrying case. When transformer and carrying case are ordered together, transformer will be installed before shipping.

Model 900—Size: 9½" high, 6¼" wide, 3" deep. **Shipping Weight:** 8½ lbs.

VOLTS
AMPS
WATTS
100 WATTS 13 AMPS
20 WATTS 26 AMPS
LOAD
LINE
HICKOK
MODEL 900
SERIAL NO.
MADE IN U.S.A.

MODEL 900

●

LABORATORY QUALITY SET TESTER

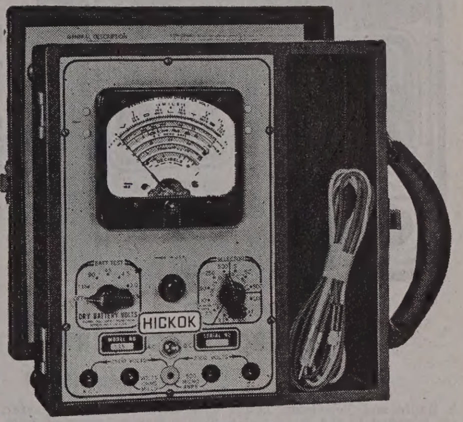
Battery Operated High Sensitivity

A Super-Sensitive Volt Ohm Milliammeter

Model 135

25,000 ohms per volt.

Built with precision. Measures with permanent accuracy.



MODEL 135

Model 135 has completely interchangeable components including a plug-in rectifier unit. Supplied complete with batteries and test leads. The finest volt ohm milliammeter available.

METER RANGES:

D.C. Microamperes: 0-40-500.

D.C. Milliamperes: 0-5-50-500.

A.C. and D.C. Volts: 0-2.5-10-50-250-500-2500.

Resistance: 0-30-10,000-1 meg.-10 meg.

Decibles: —20 to plus 3, plus 15, plus 29, plus 43.

Battery Tester: All popular sizes up to 135 volts.

Net Weight: 6 lbs.

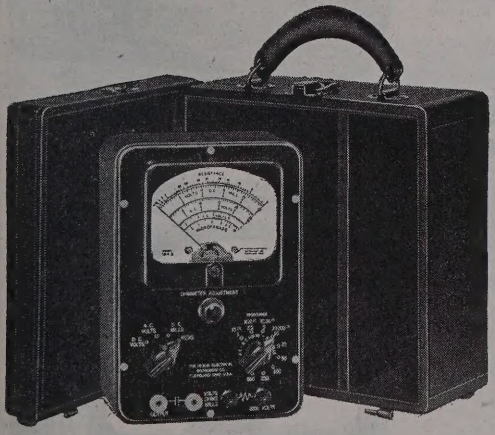
VOLT OHM MILLIAMMETER

Model 134A

Because of the many overlapping ranges this is especially desirable in the laboratory. Black hand-engraved high dielectric bakelite panel.

Supplied in pressed metal, black crackle enamel finish. Leatherette covered wooden carrying case. Complete with batteries and test leads. All ranges operated from self contained flashlight batteries.

RANGES: D.C. Volts: 0-1-2.5-5-10-25-50-100-250-500-1000. **A.C. Volts:** 0-1-2.5-5-10-25-50-100-250-500-1000. **D.C. Milliamperes:** 0-1-2.5-5-10-25-50-100-250-500. **Resistance:** 0-1,000-10,000-100,000-1 meg. **Net Wt:** 4 lbs.

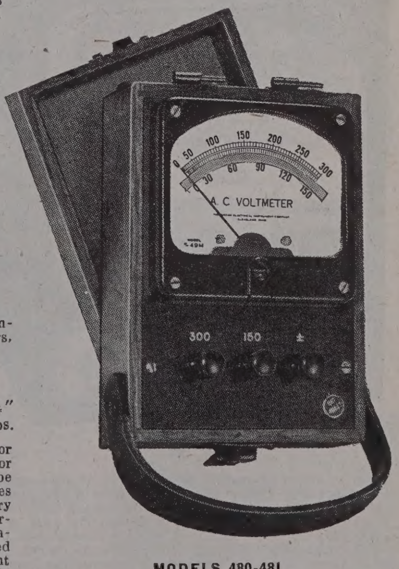


MODEL 134A

●

POCKET PORTABLE INSTRUMENTS

Models 480 and 481



MODELS 480-481

Accuracy within 1%. Unshielded. D.C. Model 480. Scale length 3¾". Voltmeters, Millivoltmeters, Ammeters, Milliammeters, Microammeters and Volt-ammeters. A.C. Model 481. Scale length 3¼". Ammeters, Milliammeters, Voltmeters, Wattmeters—single phase. Mirror Scales. Knife Edge Pointers.

DIMENSIONS:

Length	6¾"	Depth	2¾"
Width	4¾"	Weight	3 lbs.

Cases, of molded bakelite, are furnished with slip hinges permitting the cover to be removed. The resistor compartment is separate from the meter movement. Model 480 and 481 pocket portables are designed for smallness and accuracy. They will easily slip into the pocket and their high accuracy enables them to be used in many testing and inspecting applications. Extensively used by the U. S. Signal Corps. All types have mirror scales, knife edge pointers and full open faces as illustrated. The movements are of the very highest quality. Direct current models have D'Arsonval movements, with high strength alloy magnets. Alternating current models have magnetic vane movements, but the A.C.-D.C. Wattmeters have electrodynamometer movements. Direct current voltmeters have a resistance of 1000 ohms per volt. They are self-contained up to 1000 volts and are designed for continuous use at 1000 volts without temperature error. Direct current microammeters in this model have a sensitivity as low as 50, full scale. A.C. voltmeters are made self-contained up to and including 750 volts. Weight 3 lbs.

HICKOK TEST EQUIPMENT

VOLT OHM MILLIAMMETER

Model 4957 (Popular Model)

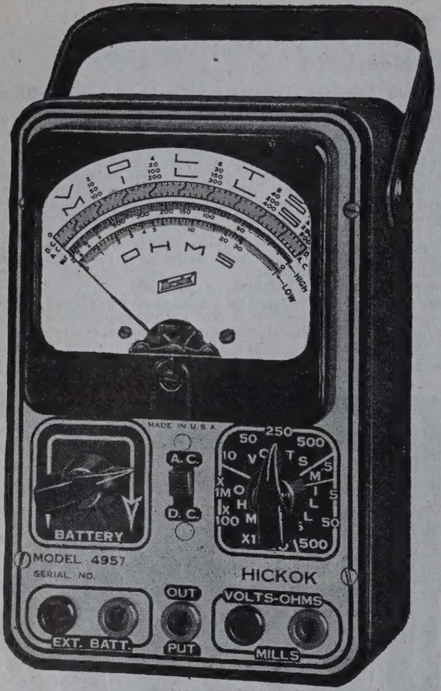
The most popular Volt Ohm Milliammeter built to highest Hickok standards. Rugged, high torque meter, guaranteed rectifier circuits, high accuracy.

A.C.-D.C. voltage ranges at 1,000 ohms per volt. The 500 microampere range is calibrated to 250 millivolts for use with an external shunt for ampere measurements. The meter is a standard Hickok Model S48 with a basic sensitivity of 350 microamperes. The scale is printed in four colors.

Ohmmeter operates from one No. 935 flashlight cell and one No. 751 4½ volt battery self-contained. External battery required for 10 megohm range. Supplied with self-contained batteries, test leads, and leather strap handle.

The instruments used in these Volt-Ohm-Milliammeters are especially built by Hickok for this service. The movement is large and rugged, and a very high torque-weight ratio gives lively, instantaneous pointer action. Large, open face dial. The movement is curve-corrected by an exclusive Hickok process which gives a higher accuracy at all points on the scale. Permanently correct calibration.

These are the finest Volt-Ohm-Milliammeters obtainable today. Regular leads supplied are 4" long with special insulated pin prods of proper diameter for insertion in the latest type tube socket.



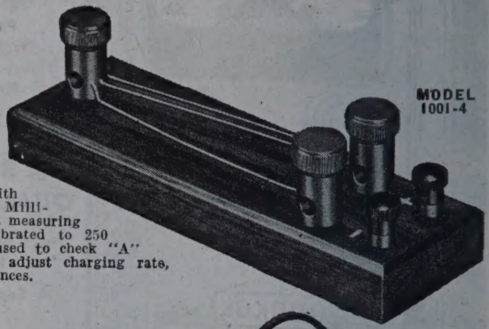
MODEL 4957

●

SHUNT

Model 1001-4

Two ranges, 0-5 amperes and 0-50 amperes. May be used with many of the models of Volt Ohm Milliammeters to increase the current measuring ranges. Shunt supplied is calibrated to 250 millivolts with leads. May be used to check "A" battery current of auto radios, adjust charging rate, service all types of D.C. appliances.



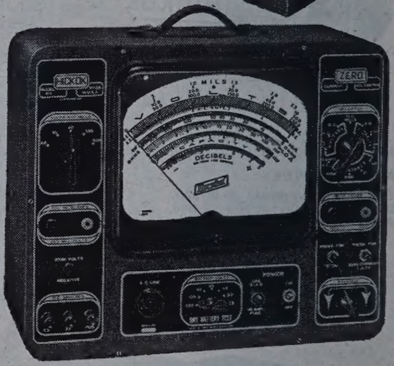
MODEL 1001-4

●

JUMBO ZERO CURRENT SET TESTER

Model 211

A Radio and Television Tester with Zero Current Voltmeter. A special bench tester—all components are fastened to the front panel. Tester may be removed from case and installed in any suitable location on your service bench. Meter is 9¼" wide, with a full open face and illuminated scale printed in four colors. Power consumed is measured directly on the 5 ampere A.C. scale of meter. THE ZERO CURRENT VOLTMETER: Infinite ohms per volt. Absolutely no current drain from the circuit under test. A.V.C., A.F.C., frequency modulated and any high resistance circuit voltages are accurately measured without disturbing operation of set. Size: Case 13" high by 16" wide by 7" deep. Finished in blue crackel enamel. Shipping weight: 35 lbs.



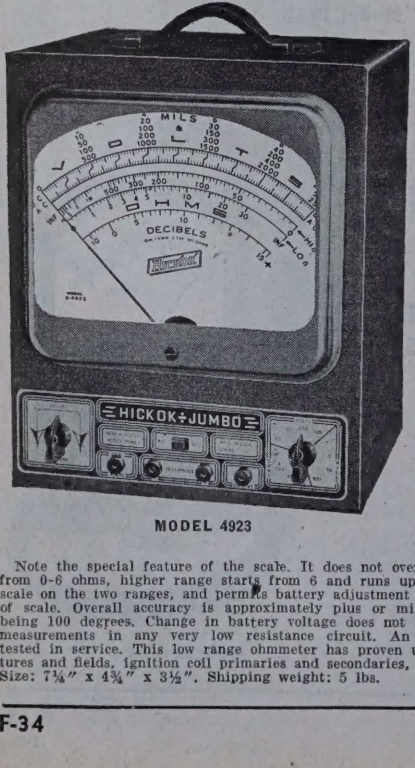
MODEL 211

●

JUMBO VOLT OHM MILLIAMMETER

Model 4923

Large 9" open face meter. Designed for your service bench. Same circuit components as Model 4957 portable volt ohm milliammeter but equipped with a large meter and case for rapid bench testing



MODEL 4923

●

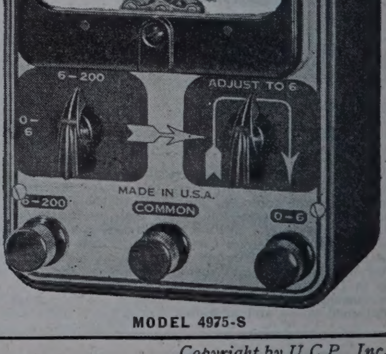
ULTRA LOW RANGE OHMMETER

Model 4975-S

(An Exclusive HICKOK Development)

Ranges: 0-6, 6-600

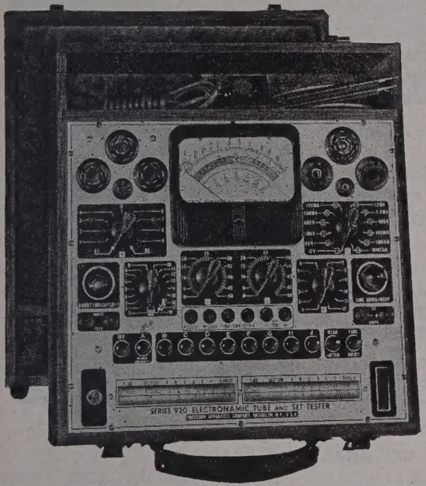
Note the special feature of the scale. It does not overlap as in most ohmmeters. Low range covers from 0-6 ohms, higher range starts from 6 and runs up to 600 ohms. This eliminates duplication of scale on the two ranges, and permits battery adjustment at logarithmic center of most accurate section of scale. Overall accuracy is approximately plus or minus one degree of scale deflection, the scale being 100 degrees. Change in battery voltage does not affect the accuracy. May be used for accurate measurements in any very low resistance circuit. An exclusive HICKOK development, thoroughly tested in service. This low range ohmmeter has proven useful in checking low resistance motor armatures and fields, ignition coil primaries and secondaries, voice coils and other low resistance windings. Size: 7¼" x 4¾" x 3½". Shipping weight: 5 lbs.



MODEL 4975-S

PRECISION TEST EQUIPMENT
STANDARD OF ACCURACY

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE



SET ANALYZING FEATURES

★ SIX A.C. and SIX D.C. VOLTAGE RANGES at 1000 ohms per volt: 0-12-60-300-600-1200-3000 volts. ★ FIVE D.C. CURRENT RANGES: 0-1.2-12-120-600 MA., and 0-12 AMPS. ★ FOUR SELF-CONTAINED RESISTANCE RANGES: 0 to 400 ohms, 0-100,000 ohms, 0-1-10 megs. ★ SIX DECIBEL RANGES from —12 to +64 D.B. ★ SIX OUTPUT RANGES: Same as A.C. volts. ★ SIMPLIFIED MASTER ROTARY RANGE SELECTOR SYSTEM. ★ LARGE 4⅝" EASY READING "PRECISION" 400 microampere METER. ★ CONDENSER LEAKAGE TESTS. ★ 1% WIRE-WOUND SHUNTS and MATCHED MULTIPLIERS employed throughout. ★ ALL RANGES INDIVIDUALLY CALIBRATED within 2% D.C. and 3% A.C. overall accuracy.

SERIES 920 *Combination Dynamic Mutual Conductance Type Tube Tester, Battery Tester and 33 Range A.C.-D.C. Multi-Range Set Tester*

AVAILABLE IN FOLLOWING MODELS

★ **920-P**—(illustrated) In hardwood, walnut finished portable case with tool compartment and hinged removable cover. Size 12 x 13 x 6". Complete with battery, test leads and operating instructions. **Code: Drive. NET PRICE $65.95**

★ **920-MCP**—Open type Metal Case Portable, black ripple finish as illustrated for Series 912-MCP. Size 10½ x 12 x 6". Complete as above. **Code: Dicer. NET PRICE $61.55**

★ **920-PM**—Consists of Series 920-MCP inserted into matching steel panel and dust cover. Panel size 12¼ x 19" for standard rack mount. Appearance same as illustrated for Series 912-PM. Unit removable from front for portable use. **Code: Dream** ______ **NET PRICE $65.95**

★ **920-C**—In modern, chrome trimmed, round cornered, counter type cabinet; black ripple finish on heavy gauge steel as illustrated for Series 912-C. Size 16 x 13½ x 7". Slopes to 3 inches at front. Complete, ready to operate. **Code: Drake** ______ **NET PRICE $65.95**

TUBE AND BATTERY ANALYZING FEATURES

★ A DYNAMIC MUTUAL CONDUCTANCE TYPE TUBE TESTER employing an exclusive "PRECISION" engineered circuit, which in one operation, effectively tests all radio receiving tubes for both MUTUAL CONDUCTANCE and CATHODE STRUCTURE. ★ TESTS ALL TUBE TYPES: FILAMENT VOLTAGES from 1.4 to 120 volts. LOKTALS, BANTAM JUNIOR AND BUTTON-7-PIN PORTABLE RADIO AND HEARING-AID BATTERY TYPES, SINGLE-ENDED, TELEVISION AND F. M. AMPLIFIERS, REGULAR OCTALS (MG, G, GT and METALS), SPRAY-SHIELD AND GLASS TYPES. ★ AUTOMATIC PUSH-BUTTON SYSTEM: Flexibility for non-obsolescent free point tube analysis. ★ DUAL FREE-POINT FILAMENT TERMINAL SELECTION. ★ VISIBLE FILAMENT CONTINUITY TESTS. ★ SPECIFIC INDIVIDUAL LOADS AND VOLTAGES: APPLIED TO ELEMENTS OF TUBE UNDER TEST. ★ VARYING A. C. SIGNAL applied to control grids. ★ METER READS IN PLATE CIRCUIT: Indications entirely dependent upon control action (transconductance) of the intervening elements. Shows up tubes having open elements. ★ Individual tests for each section of multi-section tubes. Visible tests of fluorescent screen and winking of cathode ray indicator tubes. ★ HOT CATHODE LEAKAGE and INTER-ELEMENT SHORT TESTS. ★ NOISE TEST pin jacks for earphone or amplifier connection. ★ BALLAST TESTS: The regular tube test sockets accommodate all ballast units. ★ PILOT LIGHT TESTS. ★ DOUBLE WINDOW ROLLER TUBE CHART. ★ MICRO-LINE ADJUSTMENT read directly on meter. No arbitrarily tapped transformer employed. ★ TESTS ALL **POPULAR RADIO A, B, AND C BATTERIES** 1.5 to 135 volts, UNDER ACTUAL LOAD. Condition read on simple 3 colored REPLACE—WEAK—GOOD scale. A single selector switch automatically applies appropriate load for the particular battery under test. ★ TELEPHONE CABLED WIRING EMPLOYED THROUGHOUT. ★ ACCURACY of tube test circuit closely maintained by use of individual calibrating controls.

SERIES 910 and 912 *Dynamic Mutual Conductance Type Tube Testers*

The PRECISION Series 910 and 912 are Dynamic Mutual Conductance Type Tube Analyzers incorporating the same time-proven tube test circuit features described for Series 920, above. Series 910 makes use of an attractive 3" bakelite cased meter. Series 912 utilizes an extra large 4⅝" meter, and in addition also provides the full battery testing facilities described for Series 920. The physical appearance and overall dimensions of Series 910, 912 and 920 are the same. (See illustrations.)

★ **910-P**—(as illustrated for Series 920-P) In hardwood, walnut finished portable case. Size 12 x 13 x 6". Complete with operating instructions. **Code: Front. NET PRICE $41.75**

★ **910-MCP**—Open type Metal Case Portable, as illustrated for 912-MCP, at right. Size 10½ x 12 x 6". Complete, ready to operate. **Code: Frail** ______ **NET PRICE $37.35**

★ **910-C**—In modern, chrome trimmed, round cornered counter type cabinet. Size 16 x 13½ x 7". Slopes to 3" at front, as illustrated at right, for Series 912-C. **Code: Frisk. NET PRICE $41.75**

★ **910-PM**—Consists of Series 910-MCP, removably inserted into matching steel panel and dust cover. Panel size 12¼ x 19" for standard rack mount, as illustrated for 912-PM at right. **Code: Fried. NET PRICE $41.75**

★ **912-P**—(as illustrated for Series 920-P) In hardwood, walnut finished portable case with tool compartment and hinged removable cover. Size 12 x 13 x 6". Complete with operating instructions. **Code: Fence. NET PRICE $46.15**

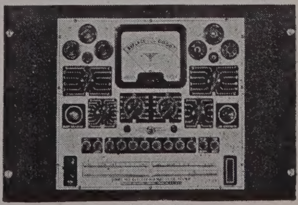
★ **912-MCP**—Open type Metal Case Portable, black ripple finish, as illustrated at right. Size 10½ x 12 x 6". Complete, ready to operate. **Code: Felon** ______ **NET PRICE $41.75**

★ **912-C**—In modern, chrome trimmed, round cornered counter type cabinet. Black ripple finish on heavy gauge steel. Size 16 x 13½ x 7". Slopes to 3" at front. Complete, as illustrated at right. **Code: Frame. NET PRICE $46.15**

★ **912-PM**—Consists of Series 912-MCP, removably inserted into matching steel panel and dust cover. Panel size 12¼ x 19", for standard rack mount. See illustration at right. **Code: Fetid** ______ **NET PRICE $46.15**

★ 912-MCP

★ 912-C



★ 912-PM

SERIES 914

Modern Counter Type Tube & Battery Merchandiser employing a large 7" chrome trimmed SWIVEL MOUNTED METER

An economically priced, but nevertheless elaborate, attractively designed instrument, occupying a minimum of counter space. The 7" swivel mounted meter provides both customer and operator with a FULL VIEW of test results, regardless of cabinet position.

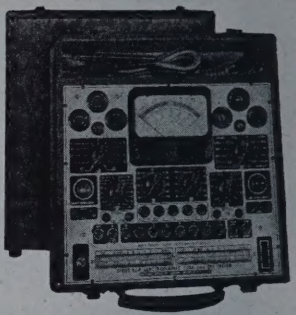
- ★ A modern, streamlined, customer appealing tube merchandiser.
- ★ Large, easy reading, 7" chrome trimmed bakelite cased meter.
- ★ 3 colored—REPLACE—WEAK—GOOD SCALE with 0-100 division tube matching reference arc.
- ★ Full vision double-window roller tube chart.
- ★ Dynamic Mutual Conductance Tube testing and Battery test features, same as described for Series 920.

★ **914 TUBE MERCHANDISER**—Attractive, modern streamlined design with chrome trimming on fine dull black wrinkle-finished, heavy gauge cabinet. Separately encased meter, swivel mounted. Cabinet size 16" x 13½" x 7", slopes to 3" at front. **Code: Handy.** ________ **NET PRICE $50.55**

SERIES 954

Combination Dynamic Mutual Conductance Type Tube Tester, Battery Tester and 37 Range Super-Sensitive A.C.-D.C. Multi-Range Set Tester

20,000 OHMS PER VOLT DC



A complete service laboratory; one compact unit, provides every facility for accurate, reliable solutions of all tube test and measurement problems of Radio (A.M. and F.M.), and Television.

TUBE AND BATTERY ANALYZING FEATURES

★ Same as Dynamic Mutual Conductance tube test circuit described for the Series 920.

SET ANALYZING FEATURES

★ SEVEN AC and SEVEN DC VOLTAGE RANGES; 0-3 to 0-6000 volts. **20,000 ohms/volt DC**—1000 ohms/volt AC. ★ SEVEN DC CURRENT RANGES. 0-60 microamps to 0-12 AMPS. ★ SELF-POWERED RESISTANCE RANGES to 60 MEGOHMS. ★ SIX DECIBEL RANGES: —12 to +70 DB. ★ SEVEN OUTPUT RANGES to 6000 volts. ★ 4⅝"—50 microampere bakelite cased meter.

★ **954P**—(illustrated) In hardwood portable walnut finish case; removable cover and tool compartment. Size 12" x 13" x 6". Complete with batteries and extra-high voltage test leads. **Code: Happy.** ________ **NET PRICE $81.35**

The Series 954 is also available in the same additional types of housings described for the Series 920.

★ **954MCP**—Open type portable—complete with batteries and high voltage test leads. **Code: Horse.** ____ **NET PRICE $76.95**

★ **954C**—Counter type—complete with batteries and high voltage test leads. **Code: Human.** ________ **NET PRICE $81.35**

★ **954PM**—Standard Panel Mount—complete with batteries and high voltage test leads. **Code: Hermit.** ____ **NET PRICE $81.35**

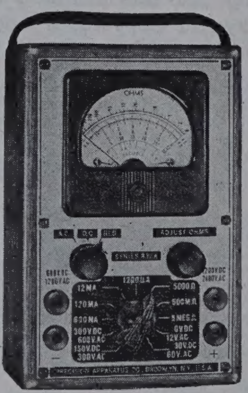
SERIES 832-A

31 Range A.C.-D.C. Multi-Range Tester

Though small in size, Series 832-A incorporates the same full-bodied electrical components provided in all larger "Precision" multi-range instruments. Meter scale-plate design is in Black, Red and White with large sized numerals, for maximum ease of reading.

SPECIFICATIONS

- ★ **6 D.C. voltage ranges**—1000 ohms / volt 0-6-30-150-300-600-1200 volts.
- ★ **6 A.C. voltage ranges**—500 ohms/volt 0-12-60-300-600-1200 2400 volts.
- ★ **4 D.C. current ranges**—0-1.2 to 0-600 Milliamps.
- ★ **3 Resistance ranges to 5 MEGS.** Up to 500,000 ohms on internal battery.
- ★ **6 Decibel ranges** (—10 to +62DB).
- ★ **6 Output ranges** to 2400 volts.
- ★ Wire-wound shunts, metallized multipliers — 1% tolerance.
- ★ A PRECISION instrument designed to withstand the abuse and punishment of rough service.



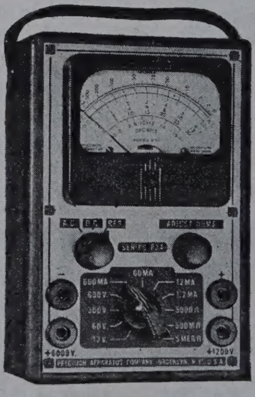
★ **832-A**—In hardwood walnut finished case (7" x 4½" x 3") with leather handle, complete with batteries (less test leads). **Code: Anvil.**
NET PRICE $18.65

SERIES 834

31 Range A.C.-D.C. Circuit Tester

1000 OHMS PER VOLT A.C. AND D.C.

The Series 834 is an advanced and highly practical improvement in compact, A.C.-D.C. multi-range circuit testers. Simplified rotary selection allows all measurements from ONLY TWO tip jacks (except 1200 and 6000 volts). An extra large 3¼" 400 Microampere meter provides Scale Length and Ease of Reading not usually associated with compact instruments.



★ **Series 834**—In hardwood, walnut finished case with leather handle. Size 7 x 4½ x 3". Complete with 3 volt battery (less test leads). **Code: Labor.**
NET PRICE $21.95

SPECIFICATIONS

- ★ **6 D.C. and 6 A.C. voltage ranges**—1000 ohms/volt: 0-12-60-300-600-1200-6000 volts.
- ★ **4 D.C. Current Ranges:** 0-1.2-12-60-600 milliamps.
- ★ **3 Resistance Ranges:** Batteries fit inside of case. 0-5000-500,000-5,000,000 ohms.
- ★ **6 Decibel Ranges:** from —10 to +70 DB.
- ★ **6 Output Ranges:** at 1000 ohms per volt. 0-12-60-300-600-1200-6000 volts.
- ★ 1% wire wound shunts and matched metallized multipliers.
- ★ Each instrument individually calibrated: 2% D.C. and 3% A.C. overall accuracy.

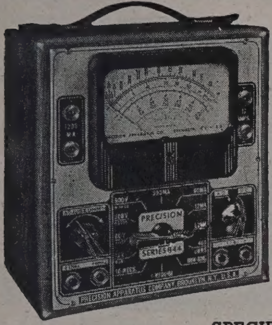
PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

SERIES 844

34 Range A.C.-D.C. Volt-Ohm-Decibel-Milliammeter 6000 volts A.C. and D.C., 10 megohms, and 12 amps. 1000 OHMS PER VOLT A.C. & D.C.



The Series 844 is an excellent general purpose A.C.-D.C. multi-range tester, invaluable to laboratory, industrial, serviceman and engineer. Ruggedly constructed, it will maintain its initially high degree of accuracy under constant usage and handling.

★ **844L**—(illustrated) Housed in walnut finished hardwood open type case with carrying handle. Compact in size 7" x 8" x 4". **Code: Manse. NET PRICE** (Less batteries and test leads) **$27.45**

SPECIFICATIONS

★ SIX A.C. and SIX D.C. VOLTAGE RANGES at 1000 ohms per volt: 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
★ SIX D.C. CURRENT RANGES: 0-1.2 MA to 0-12 AMPERES.
★ FOUR RESISTANCE RANGES: Batteries mount inside of case. 0-400; 0-100,000 ohms; 0-1 meg.; and 0-10 megs.
★ SIX DECIBEL RANGES from —12 to +70DB.
★ SIX OUTPUT RANGES: 0-12 to 0-6000 volts.
★ Large 4⅝" 400 microampere bakelite cased meter.
★ All instruments individually calibrated and sealed against laboratory standards assuring 2% D.C. and 3% A.C. overall accuracy. Complete telephone cabling employed.

★ **844P**—In closed type portable case. **Code: Malad. NET PRICE** (Less batteries and test leads) ———— **$29.65**

★ **844PM**—In standard panel mount. 19" x 12¼". **Code: Maize. NET PRICE** (Less batteries and test leads) ———— **$30.75**

SERIES 845

41 RANGE HIGH SENSITIVITY A.C.-D.C. TESTER RANGES TO 6000 VOLTS, 20 MEGS., AND 12 AMPS. 5000 OHMS PER VOLT D.C.

1000 OHMS/VOLT D.C. 1000 OHMS/VOLT A.C.

Series 845 is a reliable, highly accurate, multi-range tester of moderate sensitivity for more accurate measurements in sensitive communications and electronic apparatus. Its dual-sensitivity feature, suits Series 845 to the requirements of laboratory, maintenance and production testing.

★ **845L**—(illustrated) Housed in walnut finished hardwood open type case with carrying handle. Compact in size 7" x 8" x 4". **Code: Isben. NET PRICE** (Less batteries and test leads) **$31.85**

SPECIFICATIONS

★ 6 D.C. voltage ranges at 5000 ohms per volt: 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
★ 6 A.C. and 6 D.C. voltage ranges at 1000 ohms per volt: 0-12-60-300-600-1200-6000 volts.
★ 7 D.C. current ranges: 0-300 Microamps. 0-1.2-12-60-300-1200 MA and 0-12 Amps.
★ 4 Resistance Ranges: Batteries mount inside of case. 0-2000-200,000 ohms. 0-2-20 megohms.
★ 6 Decibel Ranges from —12 to +70 DB.
★ 6 Output Ranges: same as A.C. voltage ranges.
★ Large 4⅝" 200 microampere, easy reading bakelite cased meter.
★ 1% wire-wound shunts and matched multipliers, plus individual instrument calibration assures 2% D.C. and 3% A.C. overall accuracy.

★ **845P**—In closed type portable case. **Code: Icing. NET PRICE** (Less batteries and test leads) ———— **$34.05**

★ **845PM**—In standard panel mount. 19" x 12¼". **Code: Ideal. NET PRICE** (Less batteries and test leads) ———— **$35.15**

SERIES 856

44 RANGE SUPER-SENSITIVE A.C. - D.C. TESTER, 6000 VOLTS, 60 μAMPS., 12 AMPS., 60 MEGS. 20,000 OHMS PER VOLT D.C.

1000 OHMS/VOLT D.C. 1000 OHMS/VOLT A.C.

The Series 856 is specifically designed for obtaining reliable measurements in modern communication and electronic circuits where only minute current drain of the measuring instrument can be tolerated.

The DUAL SENSITIVITY FEATURE doubles its utility, providing the equivalent of ANOTHER COMPLETE INSTRUMENT for measurements at standard 1000 OHMS PER VOLT sensitivity.

SPECIFICATIONS

★ SEVEN D.C. VOLTAGE RANGES: 20,000 ohms/volt: 0-3; 0-12; 0-60; 0-300; 0-600; 0-1200; 0-6000 volts.
★ SEVEN A.C. and SEVEN D.C. VOLTAGE RANGES: 1,000 ohms/volt: 0-3-12-60-300-600-1200-6000 volts.
★ SEVEN D.C. CURRENT RANGES: 0-60, 0-300 microamps: 0-3, 30, 120, 600 MA; 0-12 AMPS.
★ SEVEN D.C. CURRENT RANGES: 2% accuracy: 0-60, 0-300 microamps: 0-3, 30, 120, 600 MA; 0-12 AMPS.
★ THREE RESISTANCE RANGES: Self-contained batteries: 0-6000, 0-600,000 ohms, 0-60 megohms.
★ SIX DECIBEL RANGES FROM —12 to +70DB.
★ SEVEN OUTPUT RANGES: 0-3-12-60-300-600-1200-6000 volts.
★ Large 50 microampere 4⅝" bakelite-cased meter.
★ WIRE-WOUND SHUNTS, METALLIZED MULTIPLIERS—1% ACCURACY.
★ All ranges individually calibrated to within 2% D.C. and
★ 3% A.C. overall accuracy.
★ Wax-impregnated telephone cabling and XXX bakelite mounting strips employed throughout.

★ **856P**—(illustrated) In attractive walnut finished hardwood portable case with removable cover and tool compartment. Size 9" x 10" x 6". **Code: Jalop. NET PRICE** (Complete with batteries and high voltage test leads) ———— **$43.95**

The Series 856 is also available in the same type of mountings and combinations described for Series 844.

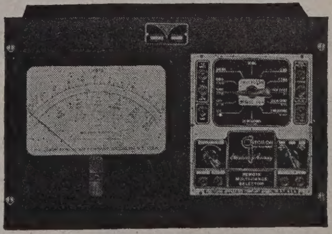
★ **856L**—Open portable: complete with batteries and high voltage test leads. **Code: Jabot.** ———— **NET PRICE** **$41.75**

★ **856PM**—Panel mounted: complete with batteries and high voltage test leads. **Code: Janet.** ———— **NET PRICE** **$45.05**

SERIES 864

A.C.-D.C. VOLT - OHM - DECIBEL - MILLIAMMETER A Laboratory Multi-Range Tester Incorporating a Large 9" Meter and Remote Control Selector Unit

★ **864** — In standard panel mount finished in black ripple. Size 19" x 12¼" with dust cover 6 inches deep. **Code: Kapok. NET PRICE** (Complete with batteries and high voltage test leads) — **$50.55**



ELECTRICAL SPECIFICATIONS SAME AS SERIES 845

Conforming electrically to all specifications of Series 845 (adjacent), Series 864 Deluxe Multi-Range Tester is housed in standard 12¼ x 19" panel with completely enclosed rear dust cover, and is designed to mount into any standard relay rack. The separately encased Selector Unit is easily slid out from its panel compartment for remote bench operation. A seven foot flexible cord, permanently connecting meter to Remote Selector Unit, allows complete freedom of manipulation.

The 9" Precision Rectangular 200 Microampere Meter with large easy reading scales and numerals, allows highly accurate readings with greatest ease and minimum eye strain.

This instrument is an indispensable adjunct to the modern laboratory for radio service, industrial and television application and wherever operator efficiency is at a premium.

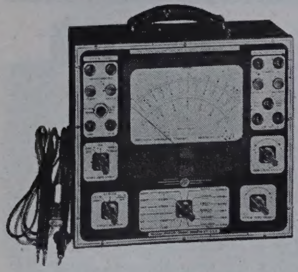
PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

SERIES EV-10

A NEW TYPE OF VACUUM TUBE MULTI-RANGE METER with Ranges to 6000 Volts A.C. and D.C. 2000 Megs. — 12 Amps. — 70 DB.



PERFORMANCE, ACCURACY, EASE OF MANIPULATION—Series EV-10 provides eight distinct instruments for most all measurements in the present and future electronics and communications fields. **Combining both VTVM as well as standard 1000 ohms per volt test circuits.** Series EV-10 permits rapid check of all voltage, current, and resistances encountered in television, photo-electric, F.M. networks, etc., without disturbing operation of circuit under analysis.

IMPORTANT FEATURES

- ★ VOLTAGE REGULATED—BRIDGE TYPE CIRCUIT: provides unusually high VTVM accuracy. Uses one type 6C5, 6X5 and VR-150.
- ★ ZERO-CENTER VTVM—READS voltage at any test point WITHOUT reversal of test prods.
- ★ SINGLE MASTER RANGE SELECTOR—Provides rapid, positive selection of all ranges.
- ★ SHIELDED COAXIAL TEST PROBES—permit direct voltage measurements without disrupting apparatus under test.
- ★ DUO-BALANCED ELECTRONIC-BRIDGE OHMMETER—BOTH ends of ohmmeter scales are independently zero adjusted, providing high accuracy throughout scale length. A single OHMS scale serves for ALL ranges.
- ★ 1% wire-wound shunts and matched multipliers plus telephone-cabled, wax-impregnated, wiring employed throughout.
- ★ EACH INSTRUMENT INDIVIDUALLY CALIBRATED.
- ★ FULL VISION 8½" RECTANGULAR 400 microampere METER.

RANGES

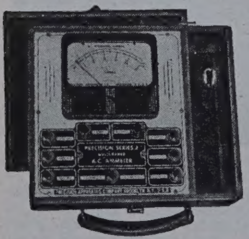
- ★ Eight Zero-Center Vacuum Tube Voltmeter Ranges—from ±3 to ±6000 volts D.C.—Input Resistance—13⅓—26⅔ and 133⅓ Megohms.
- ★ Six Circuit Probing, Zero-Center, VTVM Ranges—from ±3 to ±600 volts D.C.
- ★ Six Wide-Range Ohmmeter-Megohmmeter Ranges: 0-2000-200M ohms. 0-2-20-200-2000 Megohms.
- ★ Eight A.C. and Eight D.C. Voltage Ranges at 1000 ohms per volt. 0-3-6-12-60-300-600-1200-6000 volts.
- ★ Seven D.C. Current Ranges—0-600 Microamps: 0-3-12-60-300-1200 MA; 0-12 AMPS.
- ★ Eight Output Ranges—0-3-6-12-60-300-600-1200-6000 volts.
- ★ Eight Decibel Ranges—from —26 to +70 DB.

★ **EV-10-MCP**—(illustrated) In black ripple finished, heavy gauge steel case. Size 10½ x 12 x 6". Complete with tubes, battery and testing probes. **Code: Place. NET PRICE $54.95**

★ **EV-10-P**—Complete as described above but in hardwood walnut finished portable case. **Code: Phone. NET PRICE $59.35**

★ **EV-10-PM**—In standard panel mount. **Code: Panel. NET PRICE $59.35**

SERIES "J" Multi-Range A.C. Ammeter



★ **Series J-P**—(illustrated) In hardwood walnut finished carrying case, size 9 x 10 x 6". **Code: Apple. NET PRICE $24.15**

THE PRECISION SERIES "J" is a rugged, portable, MULTI-RANGE A.C. AMMETER; with wide selection of ranges to meet the requirements of many fields of application from 25 cycles up.

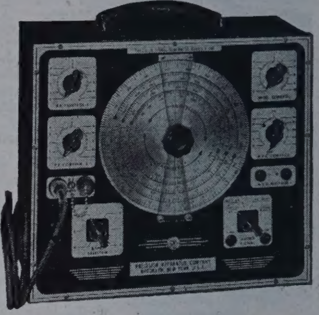
SPECIFICATIONS

Eight alternating current ranges: 0-300-600-1200 Milliamps. 0-3-6-12-30-60 AMPS. Internal heavy duty current transformer designed for 25 cycle operation and up. Heavy duty, brass, bakelite insulated, binding posts. Full vision, easy reading 4⅝" bakelite cased meter, Accuracy 2%.

★ **Series J-L**—In open face hardwood carrying case, size 7½ x 8½ x 4". **Code: Atone** ________ **NET PRICE $21.95**

SERIES E-200 SIGNAL GENERATOR

For All A.M., F.M. and Television Receivers, featuring "Servicing by Signal Substitution"



● **Six Bands:** 90 KC to 88 MC. ● **Accuracy—Constancy of calibration:** MAXIMUM of 1% DEVIATION on all bands, insured by use of the "PRECISION" developed "UNIT OSCILLATOR" construction. ENTIRE "UNIT OSCILLATOR" is SINGLE-POINT-MOUNTED, providing positive freedom from effects of mechanical shock, eliminating the need of costly, useless, **single frequency** reference crystals. ● **LARGE FULL VISION 6½ INCH NO-GLARE DIAL:** approx. 6 feet of direct reading deeply etched scales. Ball bearing planetary drive. ● 0-100 **Point Vernier** Scale and Twin Hair-Line Indicators: provide direct reading to one part in 1000 for critical laboratory usage. ● **The Circuit**—uses the new 6SJ7 in a highly stable E.C.O. circuit—**Modulated in the buffer amplifier** by a 6C5 400 cycle sine-wave audio oscillator. An 80 full-wave rectifier forms the basis of a hum-free D.C. supply. ● **400 Cycle Sine-Wave Audio Oscillator**—Independently Controlled—provides both modulation and external audio signal of over 60 volts. ● **DUAL CALIBRATED R.F. Attenuators** — Separately shielded — provides direct R.F. gain measurement facilities and smooth stepless control. ● **LOW LEAKAGE:** complete shielding of all vital components, in addition to a heavy gauge etched panel and steel cabinet—Power transformer electro-statically shielded—A.C. line, choke-condenser filtered. ● **SELF-SHIELDING COAXIAL OUTPUT CABLE** and dual (LOW-HIGH) coaxial connectors with separate screw cap for elimination of leakage from unused terminal. ● **Four Types of Signals**—"Unmodulated R.F." "400 cycle Modulated R.F." "EXTERNALLY Modulated R.F." (frequency or amplitude) "400 cycle Audio Output." ● **VARIABLE MODULATION CONTROL**—0-100% modulation AT WILL—more than triples signal utility as against obsolete fixed modulation of only 30 or 40% ● **A.V.C. SUBSTITUTION SYSTEM**—The Series E-200 fully overcomes serious alignment troubles arising from receiver A.V.C., by supplying ITS OWN A.V.C. VOLTAGE, controllable at the front of the panel from 0-50 volts. ● **HAND CALIBRATION**—Each instrument INDIVIDUALLY hand calibrated on all six bands. ● Fully licensed under patents of American Telephone & Telegraph Co. ● Not only an unsurpassed, efficient Signal Generator for purposes of alignment but SPECIFICALLY DESIGNED for "Servicing by Signal Substitution", the new modern Dynamic speed approach to receiver alignment and adjustment problems, described in a new 120 page illustrated text book.

★ **E-200**—In black ripple heavy gauge steel case. Size 12" x 10½" x 6". Complete with FREE copy of "SERVICING BY SIGNAL SUBSTITUTION." **Code: Trade. NET PRICE $43.95**

★ **E-200PM**—In standard panel mount. **Code: Trace. NET PRICE $48.35**

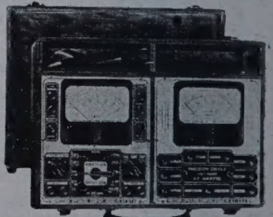
A.C.-D.C. INDUSTRIAL CIRCUIT TESTERS

Series 844-J—1000 OHMS per VOLT—42 RANGES	**Code: Miser**	**NET PRICE**	**$53.85**
Series 845-J—5000 OHMS per VOLT—49 RANGES	**Code: Ignite**	**NET PRICE**	**$58.25**
Series 856-J—20000 OHMS per VOLT—52 RANGES	**Code: Jason**	**NET PRICE**	**$65.95**

(Series 856-J illustrated below in hardwood finished portable case with tool compartment and removable cover.) Size 11 x 15 x 6".

Ranges to 6000 Volts A.C.-D.C. • 60 Amps A.C. • 12 Amps D.C. • 10-20-60 Megohms, Etc.

Precision INDUSTRIAL CIRCUIT TESTERS provide a practical solution to A.C.-D.C. circuit test and maintenance problems. Through matching design of Series "J" A.C. Ammeter, these wide-range Circuit Testers will meet your individual sensitivity requirements. Merely combine Series "J" with either Series 844, 845 or 856 and a universal A.C.-D.C. circuit tester is produced to YOUR SPECIFICATIONS, providing every desirable range of Series 844, 845 or 856, PLUS the full facilities of Series "J".



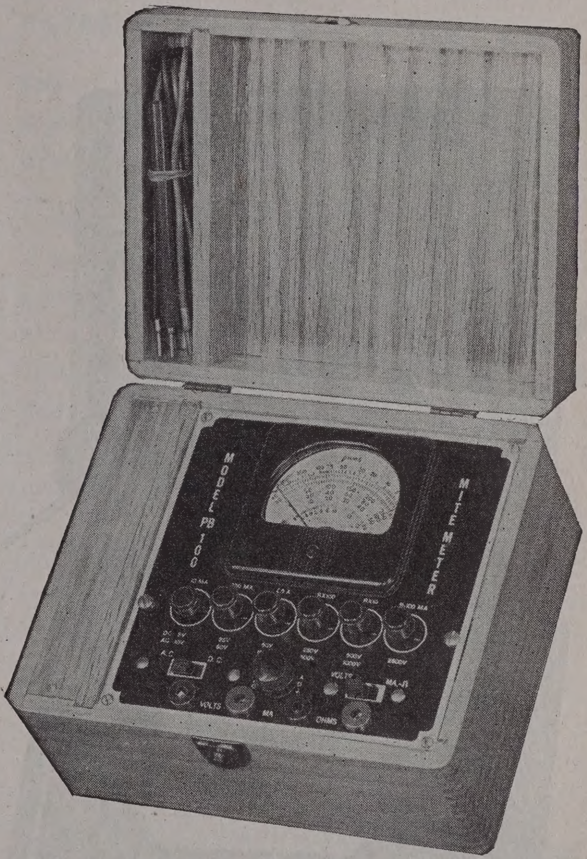
SUPERIOR TEST EQUIPMENT

VOLT-OHM-MILLIAMMETER

Model PB-100

Measures:

- **D. C. VOLTAGES TO 2500 Volts**
- **A. C. VOLTAGES TO 1000 Volts**
- **Resistance to 1 MEGOHM**
- **OUTPUT VOLTS TO 1000 Volts**
- **D. C. CURRENT TO 2.5 Amperes**
- **DECIBELS TO + 55 D. B.**



Features:

- ★ **Push Button Operation**
- ★ **Direct Reading**
- ★ **Housed in Portable Oak Cabinet**
- ★ **No External Source of Current Required**

YOU NEED ONLY PUSH A BUTTON to select the service you want when using the Model PB-100. Speed is only one of the many advantages afforded by this truly versatile unit. A complete laboratory housed in a single cabinet, the model PB-100 is the ideal, all around instrument for making quick and accurate tests in the laboratory, shop or field.

All the Resistance Ranges, incidentally, operate on a standard 4½ Volt battery so that no external source of current is required. A special compartment is provided in the carrying case for the battery which may be replaced without removing the front panel.

Specifications:

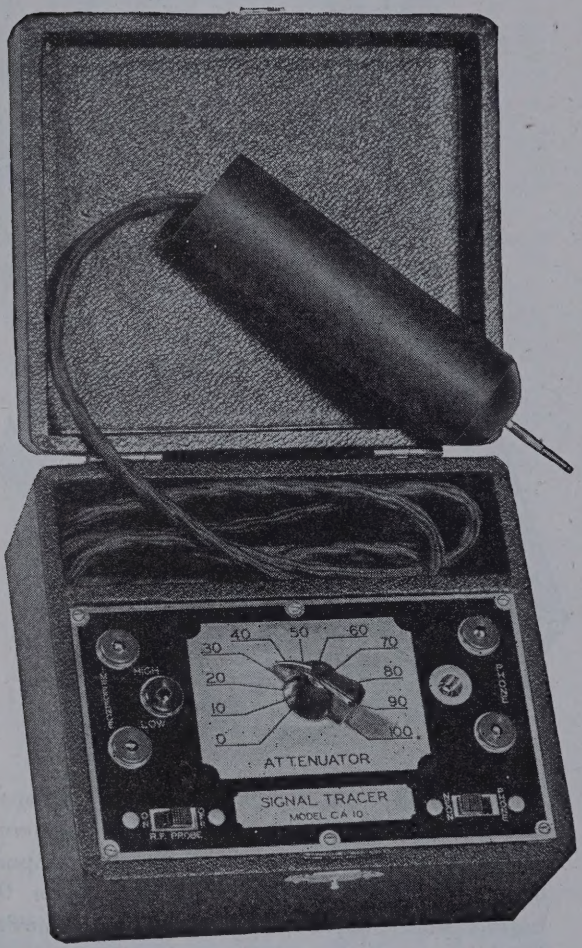
6 D.C. VOLTAGE RANGES
0 to 5/25/50/250/500/2500 Volts
5 A.C. VOLTAGE RANGES
0 to 10/50/100/500/1000 Volts
5 OUTPUT METER RANGES
0 to 10/50/100/500/1000 Volts

4 D.C. CURRENT RANGES:
0 to 10/100/250 Ma. 0 to 2.5 Amp.
3 RESISTANCE RANGES:
0 to 10,000 Ohms, 0 to 100,000 Ohms, 0 to 1 Megohm
3 DECIBEL RANGES:
— 10 to + 15 D.B., 0 to + 35 D.B., + 30 to + 55 D.B.

Model PB-100 comes housed in a hand-rubbed Oak portable cabinet complete with cover, self contained battery, test leads and instructions. **Net Price $28.40**

SUPERIOR TEST EQUIPMENT

Improved SIGNAL TRACER



Model CA-10

COMPLETE WITH

DETECTOR PROBE

FOLLOWS THE SIGNAL FROM THE ANTENNA TO SPEAKER OF ANY SET!!

Here at last housed in a single portable cabinet are combined all the components required for servicing by the well-established Signal Tracing Method. With the CA-10 the serviceman can follow the signal from antenna to speaker through each individual stage of any receiver ever made and use the signal itself as a basis of measurement to locate the cause of trouble. To be specific servicing by Signal Tracing involves isolating the faulty stage in a receiver and then proceeding to locate and repair the cause of trouble. The Model CA-10 enables you to quickly and conveniently do just that.

An unusual feature of the Model CA-10 never before included in signal Tracing Equipment is the special Detector Probe furnished with the unit. A 1T4 tube used in conjunction with an R.C. network comprises the complete assembly housed within the Probe itself. The Probe may be used on both R.F. and I.F. stages with negligible loading and is sufficiently sensitive to respond to a signal picked up by an antenna without amplification.

An impedance matching transformer, suitable for all audio stages both high impedance as encountered in plate and grid circuits or low impedance as found in speaker lines, is used in the Model CA-10. An attenuator control mounted on the front panel permits variation of the signal level. A neon lamp, also on the front panel, is used to compare the relative power and voltage of audio circuits. An ordinary single or double headset may be used to "listen in" when tracing for noise or distortion in either the R.F. or Audio Sections. Phone jacks are provided on the front panel for convenient insertion of phones and a front panel snap switch automatically cuts in the attenuator control for phones or the indicator lamp.

The Model CA-10 comes housed in a beautiful leatherette, portable carrying case, Detector Probe (complete with tube) furnished with unit. Size 7" x 6" x 4". ....Net Price **$14.85**

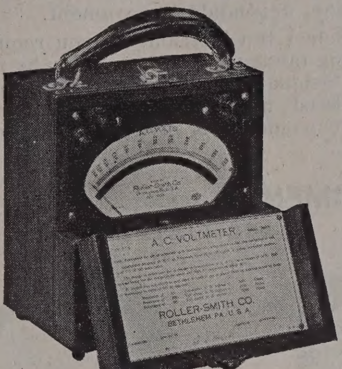
ROLLER-SMITH STANDARD & PRECISION ELECTRICAL EQUIPMENT

PORTABLE INSTRUMENTS

From a background of over forty years pioneering in the field of precision electrical measurement, Roller-Smith offers today mass-produced instruments embodying design refinements and construction advantages made possible only by long manufacturing experience.

TYPE NP

Size: 8"x8"x5½"
Scale length: 5¼"
Accuracy: 1/3 of 1%



Designed for general use where a highly accurate and extremely rugged instrument is required, The case, made in two parts, has walnut exterior and an inner two-piece metal case which furnishes full magnetic shielding and protection from external strains, dust and moisture. The lid, when closed completely, covers the dial and all binding posts.

Type NP instruments are supplied to make the following measurements:

d-c	a-c	
Amperes	Amperes	Watts
Milliamperes	Milliamperes	Power Factor
Volts	Volts	Frequency
Millivolts		

Available in single- and multi-ranges.

"STEEL-SIX"

Size: 6" x 6" x 4"

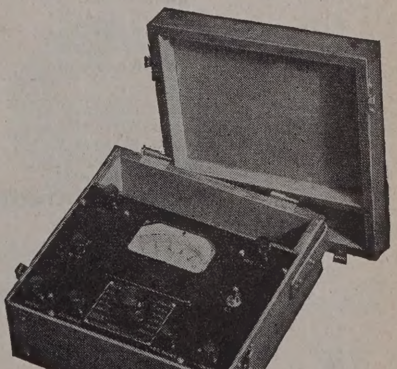
Scale length: 5-3/16"

Accuracy: ½ of 1%

Designed priimarily for general testing where accuracy and moderate price are required. The all-metal case is both dust and moisture proof and provides full magnetic shielding. Large window opening combined with well-designed dials results in a proportionally long scale and unusual readability. These instruments can be furnished to measure the same electrical units listed under Type NP.

MULTI-TESTER MODEL 2014 . . .

Size: 9-9/16" x 9-9/16" x 5⅛". Scale length: 3-5/16". Accuracy: ± 3% for a-c except 10 volt range, which is ± 5%.



Designed for the convenience and time-saving of multiple testing, the Multi-Tester is contained in a strong oak case with leather carrying strap. Space is available inside for test leads and small tools.

There are fourteen different ranges on the instrument which make possible the following measurements:

Direct Current (20,000 ohms per volt)			Alternating Current (1,000 ohms per volt)
Volts	Milliamperes	Ohms	Volts
0-2.5	0-0.1	0-600	0-2.5
0-10	0-10	0-60,000	0-10
0-50	0-100	0-6 meg.	0-50
0-250	0-500		0-250
0-1000			0-1000
0-5000			0-5000

The tester is built around a rugged 4″ 0-50 microammeter. Below one megohm, resistors are wire wound; wherever it is necessary to use composition resistors, an excessive voltage drop has been avoided. Heavy momentary overloads may be sustained without damage and there is practically no frequency error at commercial and lower audio frequencies. An output circuit blocks out superimposed d-c currents and a chart is provided to convert these readings into decibels.

MINIATURE PANEL INSTRUMENTS

Built to high standards of precision and dependability, the Roller-Smith line consists of a full range of instruments from which you may select those that meet your requirements.

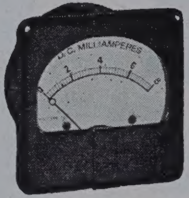
Dependable long life is assured by design and construction details. D-c mechanisms are of the moving coil (d'Arsonval type) with high-intensity permanent magnet which has soft iron pole pieces securely locked to the magnet. A-c mechanisms are of the repulsion iron vane type employing low loss iron and proportioned to give highest accuracy, permanency and low burdens. Mechanism is sturdily mounted within case and will not loosen from shock or vibration. Pointers are extremely readable, light and strong. Dials are metal with a heat and humidity proof white surface which will not change color. Armatures, pivots, bearings and springs are especially developed and manufactured under precise control to assure a fine, dependable instrument.

Select the instruments you require from the following tabulation. Order simply by number in the "Type Designation" column. Only commonly used ranges are listed; any practical range can be supplied. Your correspondence is invited. Roller-Smith, Bethlehem, Pa.

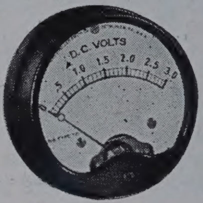
3.5" INSTRUMENTS

SCALE LENGTH: 2.1" ACCURACY: 2%

3.5" ROUND FLUSH BAKELITE CASE per AWS C39.2-1944



3.5" SQUARE FRONT ROUND BODY BAKELITE CASE



3.5" ROUND PROJECTION BAKELITE CASE

RANGE	TYPE DESIGNATION	TYPE DESIGNATION	TYPE DESIGNATION	LIST PRICE
	A-C MICROAMMETERS (Rectifier Type)			
100	TAR100UARF	TAR100UASRF	TAR100UARP	$26.00
200	TAR200UARF	TAR200UASRF	TAR200UARP	19.25
250	TAR250UARF	TAR250UASRF	TAR250UARP	19.25
500	TAR500UARF	TAR500UASRF	TAR500UARP	19.25
	A-C MILLIAMMETERS (Rectifier Type)			
1	TAR001MARF	TAR001MASRF	TAR001MARP	15.00
2	TAR002MARF	TAR002MASRF	TAR002MARP	15.00
5	TAR005MARF	TAR005MASRF	TAR005MARP	14.00
10	TAR010MARF	TAR010MASRF	TAR010MARP	14.00
15	TAR015MARF	TAR015MASRF	TAR015MARP	14.00
	A-C MILLIAMMETERS			
10	MR35W010ACMA	TAS010MASRF	TAS010MARP	9.00
15	MR35W015ACMA	TAS015MASRF	TAS015MARP	9.00
20	MR35W020ACMA	TAS020MASRF	TAS020MARP	9.00
25	TAS025MARF	TAS025MASRF	TAS025MARP	9.00
30	MR35W030ACMA	TAS030MASRF	TAS030MARP	9.00
	A-C AMMETERS			
5	MR35W005ACAA	TAS005ASRF	TAS005ARP	9.00
10	MR35W010ACAA	TAS010ASRF	TAS010ARP	9.00
15	MR35W015ACAA	TAS015ASRF	TAS015ARP	9.00
20	MR35W020ACAA	TAS020ASRF	TAS020ARP	9.00
25	TAS025ARF	TAS025ASRF	TAS025ARP	9.00
	A-C VOLTMETERS (Rectifier Type) (1000 Ohms Approximately per Volt)			
5	TAR005V1RF	TAR005V1SRF	TAR005V1RP	17.00
10	TAR010V1RF	TAR010V1SRF	TAR010V1RP	17.00
15	TAR015V1RF	TAR015V1SRF	TAR015V1RP	17.00
50	TAR050V1RF	TAR050V1SRF	TAR050V1RP	17.00
	A-C VOLTMETERS (Rectifier Type) (2000 Ohms Approximately per Volt)			
5	TAR005V2RF	TAR005V2SRF	TAR005V2RP	19.25
10	TAR010V2RF	TAR010V2SRF	TAR010V2RP	19.25
15	TAR015V2RF	TAR015V2SRF	TAR015V2RP	19.25
50	TAR050V2RF	TAR050V2SRF	TAR050V2RP	19.75
	A-C VOLTMETERS			
1.5	MR35W1R5ACVV	TAS1R5VSRF	TAS1R5VRP	9.00
2	MR35W002ACVV	TAS002VSRF	TAS002VRP	9.00
3	MR35W003ACVV	TAS003VSRF	TAS003VRP	9.00
5	MR35W005ACVV	TAS005VSRF	TAS005VRP	9.00
8	MR35W008ACVV	TAS008VSRF	TAS008VRP	9.00
10	MR35W010ACVV	TAS010VSRF	TAS010VRP	9.00
15	MR35W015ACVV	TAS015VSRF	TAS015VRP	9.00
	D-C MICROAMMETERS			
50	MR35W050DCUA	TDS050UASRF	TDS050UARP	23.50
80	MR35W080DCUA	TDS080UASRF	TDS080UARP	23.50
100	MR35W100DCUA	TDS100UASRF	TDS100UARP	21.00
150	MR35W150DCUA	TDS150UASRF	TDS150UARP	18.00
200	MR35W200DCUA	TDS200UASRF	TDS200UARP	14.25

RANGE	3.5" ROUND FLUSH BAKELITE CASE TYPE DESIGNATION	3.5" SQUARE FRONT, ROUND BODY BAKELITE CASE TYPE DESIGNATION	3.5" ROUND PROJECTION BAKELITE CASE TYPE DESIGNATION	LIST PRICE
		D-C MILLIAMMETERS		
1	MR35W001DCMA	TDS001MASRF	TDS001MARP	$10.00
1.5	MR35W1R5DCMA	TDS1R5MASRF	TDS1R5MARP	10.00
2	MR35W002DCMA	TDS002MASRF	TDS002MARP	10.00
3	MR35W003DCMA	TDS003MASRF	TDS003MARP	10.00
5	MR35W005DCMA	TDS005MASRF	TDS005MARP	9.00
8	MR35W008DCMA	TDS008MASRF	TDS008MARP	9.00
10	MR35W010DCMA	TDS010MASRF	TDS010MARP	9.00
		D-C AMMETERS		
1	MR35W001DCAA	TDS001ASRF	TDS001ARP	9.00
5	MR35W005DCAA	TDS005ASRF	TDS005ARP	9.00
10	MR35W010DCAA	TDS010ASRF	TDS010ARP	9.00
15	MR35W015DCAA	TDS015ASRF	TDS015ARP	9.00
20	MR35W020DCAA	TDS020ASRF	TDS020ARP	9.00
25	TDS025ARF	TDS025ASRF	TDS025ARP	9.00
30	MR35W030DCAA	TDS030ASRF	TDS030ARP	9.00
40	TDS040ARF	TDS040ASRF	TDS040ARP	9.00
50	MR35W050DCAA	TDS050ASRF	TDS050ARP	9.00

Ammeters are supplied in self-contained ranges up to 50 amperes inclusive. Ranges above 50 amperes supplied with external shunts.

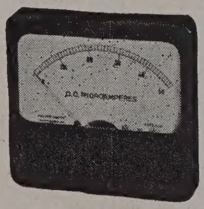
RANGE	3.5" ROUND FLUSH BAKELITE CASE TYPE DESIGNATION	3.5" SQUARE FRONT, ROUND BODY BAKELITE CASE TYPE DESIGNATION	3.5" ROUND PROJECTION BAKELITE CASE TYPE DESIGNATION	LIST PRICE
		D-C MILLIVOLTMETERS		
50	TDS050MVRF	TDS050MVSRF	TDS050MVRP	9.00
75	TDS075MVRF	TDS075MVSRF	TDS075MVRP	9.00
100	TDS100MVRF	TDS100MVSRF	TDS100MVRP	9.00
150	TDS150MVRF	TDS150MVSRF	TDS150MVRP	9.00
200	TDS200MVRF	TDS200MVSRF	TDS200MVRP	9.00
300	TDS300MVRF	TDS300MVSRF	TDS300MVRP	9.00
500	TDS500MVRF	TDS500MVSRF	TDS500MVRP	9.00
800	TDS800MVRF	TDS800MVSRF	TDS800MVRP	9.00
		D-C VOLTMETERS (100 Ohms Approximately per Volt)		
1	TDS001VRF	TDS001VSRF	TDS001VRP	9.00
1.5	TDS1R5VRF	TDS1R5VSRF	TDS1R5VRP	9.00
2	TDS002VRF	TDS002VSRF	TDS002VRP	9.00
3	TDS003VRF	TDS003VSRF	TDS003VRP	9.00
5	TDS005VRF	TDS005VSRF	TDS005VRP	9.00
8	TDS008VRF	TDS008VSRF	TDS008VRP	9.00
10	TDS010VRF	TDS010VSRF	TDS010VRP	9.00
		D-C VOLTMETERS (1000 Ohms Approximately per Volt)		
1	TDS001V1RF	TDS001V1SRF	TDS001V1RP	12.00
1.5	MR35W1R5DCVV	TDS1R5V1SRF	TDS1R5V1RP	12.00
2	MR35W002DCVV	TDS002V1SRF	TDS002V1RP	12.00
3	MR35W003DCVV	TDS003V1SRF	TDS003V1RP	12.00
5	MR35W005DCVV	TDS005V1SRF	TDS005V1RP	12.00
8	MR35W008DCVV	TDS008V1SRF	TDS008V1RP	12.00
10	MR35W010DCVV	TDS010V1SRF	TDS010V1RP	12.00

4" INSTRUMENTS

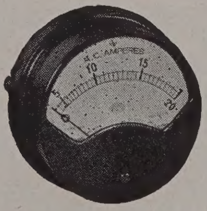
SCALE LENGTH: 2¾" on round models; 3-5/16" on square models. **ACCURACY: 1%**

A.C.&D.C. AMPERES

4" ROUND FLUSH METAL CASE



4.5" RECTANGULAR FRONT ROUND BODY SEMI-FLUSH BAKELITE CASE



4" ROUND PROJECTION BAKELITE CASE

RANGE	TYPE DESIGNATION	TYPE DESIGNATION	TYPE DESIGNATION	LIST PRICE
		A-C MICROAMMETERS (Rectifier Type)		
100	FAR100UARFM	FJAR100UASRF	FAR100UARP	$29.50
200	FAR200UARFM	FJAR200UASRF	FAR200UARP	24.25
250	FAR250UARFM	FJAR250UASRF	FAR250UARP	24.25
500	FAR500UARFM	FJAR500UASRF	FAR500UARP	24.25
		A-C MILLIAMMETERS (Rectifier Type)		
1	FAR001MARFM	FJAR001MASRF	FAR001MARP	20.75
2	FAR002MARFM	FJAR002MASRF	FAR002MARP	20.75
5	FAR005MARFM	FJAR005MASRF	FAR005MARP	20.00
10	FAR010MARFM	FJAR010MASRF	FAR010MARP	20.00
15	FAR015MARFM	FJAR015MASRF	FAR015MARP	20.00
		A-C MILLIAMMETERS		
10	FA010MARFM	FJA010MASRF	FA010MARP	$17.50
15	FA015MARFM	FJA015MASRF	FA015MARP	17.50
20	FA020MARFM	FJA020MASRF	FA020MARP	17.50
25	FA025MARFM	FJA025MASRF	FA025MARP	17.50
30	FA030MARFM	FJA030MASRF	FA030MARP	17.50

	4" ROUND FLUSH METAL CASE	4.5" RECTANGULAR FRONT ROUND BODY SEMI-FLUSH BAKELITE CASE	4" ROUND PROJECTION BAKELITE CASE	
RANGE	TYPE DESIGNATION	TYPE DESIGNATION	TYPE DESIGNATION	LIST PRICE
A-C AMMETERS				
5	FA005ARFM	FJA005ASRF	FA005ARP	17.50
10	FA010ARFM	FJA010ASRF	FA010ARP	17.50
15	FA015ARFM	FJA015ASRF	FA015ARP	17.50
20	FA020ARFM	FJA020ASRF	FA020ARP	17.50
25	FA025ARFM	FJA025ASRF	FA025ARP	17.50
A-C VOLTMETERS (Rectifier Type) (1000 Ohms Approximately per Volt)				
5	FAR005V1RFM	FJAR005V1SRF	FAR005V1RP	25.50
10	FAR010V1RFM	FJAR010V1SRF	FAR010V1RP	25.50
15	FAR015V1RFM	FJAR015V1SRF	FAR015V1RP	25.50
50	FAR050V1RFM	FJAR050V1SRF	FAR050V1RP	25.50
A-C VOLTMETERS (Rectifier Type) (2000 Ohms Approximately per Volt)				
5	FAR005V2RFM	FJAR005V2SRF	FAR005V2RP	27.75
10	FAR010V2RFM	FJAR010V2SRF	FAR010V2RP	27.75
15	FAR015V2RFM	FJAR015V2SRF	FAR015V2RP	27.75
50	FAR050V2RFM	FJAR050V2SRF	FAR050V2RP	27.75
A-C VOLTMETERS				
1.5	FA1R5VRFM	FJA1R5VSRF	FA1R5VRP	17.50
2	FA002VRFM	FJA002VSRF	FA002VRP	17.50
3	FA003VRFM	FJA003VSRF	FA003VRP	17.50
5	FA005VRFM	FJA005VSRF	FA005VRP	17.50
8	FA008VRFM	FJA008VSRF	FA008VRP	17.50
10	FA010VRFM	FJA010VSRF	FA010VRP	17.50
15	FA015VRFM	FJA015VSRF	FA015VRP	17.50
D-C MICROAMMETERS				
50	FD050UARFM	FJD050UASRF	FD050UARP	28.50
80	FD080UARFM	FJD080UASRF	FD080UARP	28.50
100	FD100UARFM	FJD100UASRF	FD100UARP	25.50
150	FD150UARFM	FJD150UASRF	FD150UARP	23.00
200	FD200UARFM	FJD200UASRF	FD200UARP	20.25
D-C MILLIAMMETERS				
1	FD001MARFM	FJD001MASRF	FD001MARP	18.50
1.5	FD1R5MARFM	FJD1R5MASRF	FD1R5MARP	18.50
2	FD002MARFM	FJD002MASRF	FD002MARP	18.50
3	FD003MARFM	FJD003MASRF	FD003MARP	18.50
5	FD005MARFM	FJD005MASRF	FD005MARP	17.50
8	FD008MARFM	FJD008MASRF	FD008MARP	17.50
10	FD010MARFM	FJD010MASRF	FD010MARP	17.50
D-C AMMETERS				
1	FD001ARFM	FJD001ASRF	FD001ARP	17.50
5	FD005ARFM	FJD005ASRF	FD005ARP	17.50
10	FD010ARFM	FJD010ASRF	FD010ARP	17.50
15	FD015ARFM	FJD015ASRF	FD015ARP	17.50
20	FD020ARFM	FJD020ASRF	FD020ARP	17.50
25	FD025ARFM	FJD025ASRF	FD025ARP	17.50
30	FD030ARFM	FJD030ASRF	FD030ARP	17.50
40	FD040ARFM	FJD040ASRF	FD040ARP	17.50
50	FD050ARFM	FJD050ASRF	FD050ARP	17.50
Ammeters are supplied in self-contained ranges up to 50 amperes inclusive. Ranges above 50 amperes supplied with external shunts.				
D-C MILLIVOLTMETERS				
50	FD050MVRFM	FJD050MVSRF	FD050MVRP	17.50
75	FD075MVRFM	FJD075MVSRF	FD075MVRP	17.50
100	FD100MVRFM	FJD100MVSRF	FD100MVRP	17.50
150	FD150MVRFM	FJD150MVSRF	FD150MVRP	17.50
200	FD200MVRFM	FJD200MVSRF	FD200MVRP	17.50
300	FD300MVRFM	FJD300MVSRF	FD300MVRP	17.50
500	FD500MVRFM	FJD500MVSRF	FD500MVRP	17.50
800	FD800MVRFM	FJD800MVSRF	FD800MVRP	17.50
D-C VOLTMETERS (100 Ohms Approximately per Volt)				
1	FD001VRFM	FJD001VSRF	FD001VRP	17.50
1.5	FD1R5VRFM	FJD1R5VSRF	FD1R5VRP	17.50
2	FD002VRFM	FJD002VSRF	FD002VRP	17.50
3	FD003VRFM	FJD003VSRF	FD003VRP	17.50
5	FD005VRFM	FJD005VSRF	FD005VRP	17.50
8	FD008VRFM	FJD008VSRF	FD008VRP	17.50
10	FD010VRFM	FJD010VSRF	FD010VRP	17.50
D-C VOLTMETERS (1000 Ohms Approximately per Volt)				
1	FD001V1RFM	FJD001V1SRF	FD001V1RP	20.50
1.5	FD1R5V1RFM	FJD1R5V1SRF	FD1R5V1RP	20.50
2	FD002V1RFM	FJD002V1SRF	FD002V1RP	20.50
3	FD003V1RFM	FJD003V1SRF	FD003V1RP	20.50
5	FD005V1RFM	FJD005V1SRF	FD005V1RP	20.50
8	FD008V1RFM	FJD008V1SRF	FD008V1RP	20.50
10	FD010V1RFM	FJD010V1SRF	FD010V1RP	20.50

NEW . . . 1.5" D-C PANEL INSTRUMENTS

SIZE: 1.5" **SCALE LENGTH: 1"** **ACCURACY: 2%**

Small size line of d-c instruments for measurement of microamperes, milliamperes, amperes, millivolts and volts will soon be available. Write for information.

VIBRATING REED FREQUENCY METERS

PRINCIPLE OF OPERATION:

Meter consists of a series of spring steel reeds, attached to a reed mounting bar; an individual driving coil surrounding each bank of reeds; a permanent magnet; a series resistor; a central mounting frame; a case, dial, and base with terminal studs.

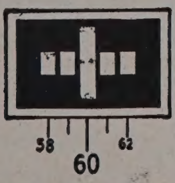
In operation, the alternating current (or interrupted direct current) excites the driving coil. As each reed is adjusted to respond by resonance to but one frequency, the one reed "in tune" with the frequency in the coils will respond by vibrating rapidly because of polarization by the permanent magnet, and induced magnetism from the coil. A series resistor adapts the instrument to specified operating voltage. The frequency of the current can be read opposite that reed on the graduated face of the instrument.

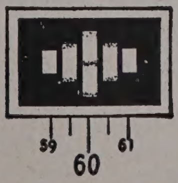
ADVANTAGES:

Guaranteed accuracy of ±0.3% or better, depending on the model. This percentage applies to each frequency being measured, and is not an overall percentage based on the maximum scale reading. All meters are permanently calibrated at the factory, and do not require subsequent adjustment. Accuracy is not affected by wave form, external magnetic fields or normal temperature changes.

Caution: These meters, when plugged in on 60 cy. AC power line will not necessarily indicate a frequency of exactly 60 cycles. Trust your meter! All J-B-T Vibrating Reed Frequency Meters are meticulously calibrated at the factory, entirely independent of frequency of power supply, which may momentarily be off-frequency due to changing load conditions beyond the control of the Utility.

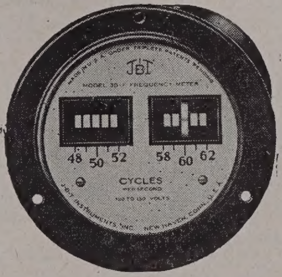
Built with no pivoted parts to wear out, and with lock washers at every critical point, these meters can take much rougher treatment than other types of instruments. They're rugged.





Some standard models are available in either half cycle or full cycle steps. In Column 1, two such meters are shown indicating a frequency of 60 cycles. In the half cycle instrument, the response is broad; in the full cycle instrument, the response is sharp. Both response patterns are extremely easy to read.

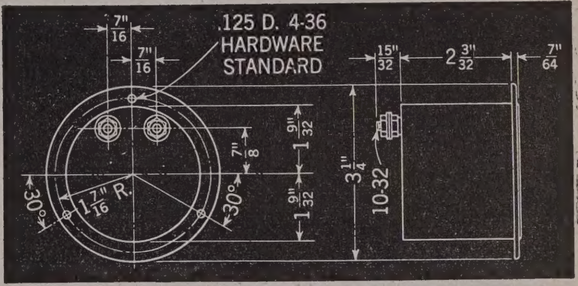
MODEL 30-F


JBT
MODEL 30-F FREQUENCY METER
48 50 52
58 60 62
CYCLES
PER SECOND
100 TO 150 VOLTS

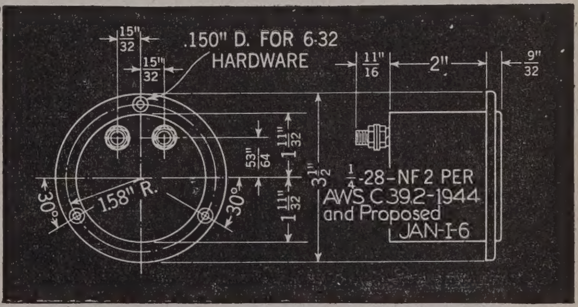
Range . . . 48 to 52 and 58 to 62 cycles. Double window for ease of reading frequency in either range. High fatigue safety factor and outstanding temperature stability. 100 - 150 volts; 130 ohms per volt; 1 watt power consumption. Flush panel mounting.

30-F, 48-52 and 58-62 cy., 3¼" metal case............$25.00

30-FX, 48-52 and 58-62 cy., 3½" Molded Case, AWS mtg. $25.00

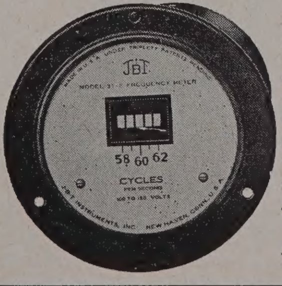

7"/16
.125 D. 4-36
HARDWARE
STANDARD
7"/16
15"/32
2 3"/32
7"/64
1 9"/32
7"/8
3 1/4"
10-32
30°
1 7/16" R.
30°
1 9"/32

Models 30-F, 31-F, 33-F, 34-F; Metal Case


15"/32
.150" D. FOR 6-32
HARDWARE
15"/32
11"/16
2"
9"/32
1 11"/32
53"/64
3 1"/32
1/4-28-NF 2 PER
AWS C 39.2-1944
and Proposed
JAN-I-6
30°
1.58" R.
30°
1 11"/32

Models 30-FX, 31-FX, 33-FX, 34-FX; Molded Case

MODEL 31-F


JBT
MODEL 31-F FREQUENCY METER
58 60 62
CYCLES
PER SECOND
100 TO 150 VOLTS

Used in standby power equipment. Handy for accurately measuring frequency of power source. 5 reeds, 58 to 62 cycles. Other characteristics, same as Model 30-F.

31-F, 58-62 cy., 3¼" Metal Case. $21.50

31-FX, 58-62 cy., 3½" Molded Case, AWS mtg...$21.50

Instruments J-B-T Testers

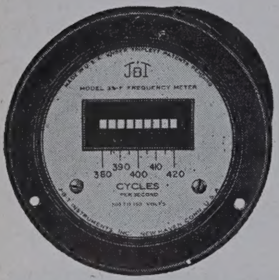
J-B-T INSTRUMENTS, INC.

JBT
MODEL 34-FX FREQUENCY METER
56 58 60 62 64
CYCLES

MODEL 34-FX

Model 34-FX. Used where a broader frequency band is desirable. 9 reeds, 56 to 64 cycles, or in half-cycle steps (accuracy ±0.2%) 58 to 62 cycles. 100-150 volts; 130 ohms per volt; 1 watt power consumption. Flush panel mounting.

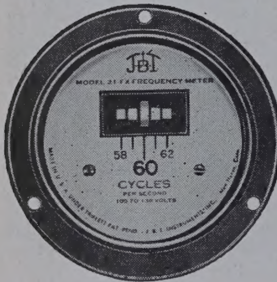
34-F, 56-64 cy., 3¼" Metal Case.	**$24.75**
34-FX, 56-64 cy., 3½" Molded Case.	**$24.75**
34-F, 58-62 cy., 3¼" Metal Case.	**$26.25**
34-FX, 58-62 cy., 3½" Molded Case, AWS mtg.	**$26.25**



MODEL 33-F

Model 33-F. (400 cycle). Used for measuring frequency of high-cycle power sources. Accuracy ±0.3%. 9 reed, 380 to 420 cycle range. 100-130 volts; 70 ohms per volt; 1.75 watts power consumption. Flush panel mounting.

33-F, 380-420 cy., 3¼" Metal Case.	**$31.00**
33-FX, 380-420 cy., 3½" Molded Case, AWS mtg.	**$31.00**

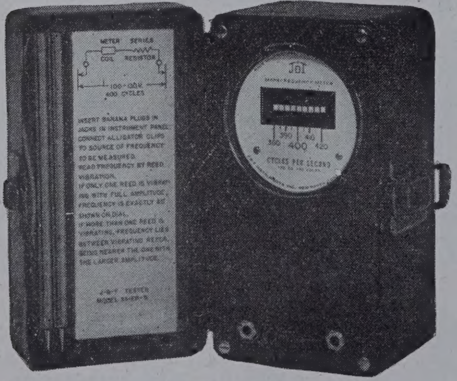


MODEL 21-FX

Model 21-FX. Smallest frequency meter manufactured. Meets ASA (AWS) C39.2-1944 in depth of case as well as in mounting dimensions and mounting hardware. Matches other 2½ inch panel instruments. Weighs only 4½ oz. 100-130 volts; 5 reeds; 58 to 62 cycles; 190 ohms per volt; 0.6 watt power consumption. Also 116 to 124 cy.; 160 ohms per volt; 0.7 watt power consumption. Flush panel mounting.

21-FX, 58-62 cy., 2 11/16" Molded Case.	**$20.50**
21-FX, 116-124 cy., 2 11/16" Molded Case, AWS mtg.	**$23.00**

PORTABLE FREQUENCY TESTERS

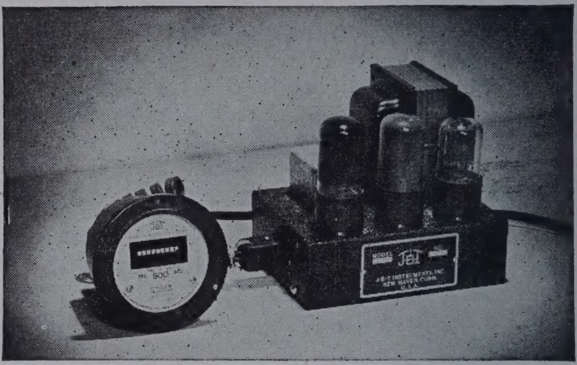


Model 33-FP-9. Handy, compact, portable instrument of exceptional accuracy even under poor wave form conditions, fluctuating voltage or external magnetic disturbances. Developed primarily to meet exacting test requirements of aviation and signal equipment. Treated against fungus and moisture. Housed in sturdy metal case 6" x 3¾" x 3⅞". Hinged top compartment provided for the 4 foot leads which are supplied complete with sharp 5 inch insulated test picks and banana plugs. Electrical characteristics identical with 400 cycle 33-F. Model 34-FP-9 electrical characteristics identical with 60 cycle 34-F.

33-FP-9, 380-420 cy.	**$38.00**
34-FP-9, 56-64 cy.	**$31.75**

VACUUM TUBE FREQUENCY METERS

(Patents Pending)



Model 33-VTF with cover removed. Vacuum tube unit attaches to rear of panel, meter mounts flush.

PRINCIPLES OF OPERATION:

J-B-T Models 33-VTF and 39-VTF Vacuum Tube Frequency Meters are designed to provide the maximum degree of accuracy in measuring frequencies located within definite bands. A special multi-vibrator circuit in the electronic unit divides the incoming frequency by two or three or even higher integers in special models and permits the use of a vibrating reed frequency meter in measuring the resultant frequency. The inherent accuracy and ruggedness of the vibrating reed instrument are thus used to full advantage in this combination.

ADVANTAGES:

- **EXTREME ACCURACY**—Measurement within ±0.25% for any indicated frequency.
- **PERMANENT ACCURACY**—Calibrated at factory—no subsequent calibration or standardization required at any time.
- **TEMPERATURE DRIFT ELIMINATED**—No initial stabilization period required.
- **BURN-OUT PROOF**—No protection needed against accidental frequencies above the range being measured.
- **FEW CONTROLS**—Requires no complicated controls for operation.
- **STABILITY OF CIRCUIT**—Accuracy of reading is independent of line voltage variation. No voltage regulator external or internal is required.

MODEL 33-VTF, Field Type

1. **Frequency ranges:** 380-420 cycles; 760-840 cycles; 1140-1260 cycles; available singly* or in any combination.
   *For single range 380-420 cycle meters, see Model 33-F.
2. Voltage range is 100 to 130 volts. Power to operate the units is obtained from an inverter or other source of frequency being measured.
3. Power consumption is approximately 20 watts. This model requires no power supply other than the source whose frequency is being checked.
4. Input impedance is approximately 650 ohms.
5. **Tubes used:** 1—6N7-GT/G multi-vibrator; 1—6V6-GT/G amplifier, and 1—6X5-GT/G rectifier.
6. **Size:** 4⅝" x 5½" x 6". **Weight:** approximately 6 pounds. **Finish:** black wrinkle. Unit is provided with three ¼-28 vibration-proof nuts for either panel or bracket mounting. Frequency meters, standard 3½" flush panel-mounting.
7. Connecting leads included are a 6 ft. power cord and 2 ft. leads between the electronic unit and frequency meter. They may be located any desired distance apart, however.
8. **Model 33-VTF**, Single range 760-840 cy. **$110.00**
   Single range 1140-1260 cy. **$117.50**
   Double range 760-840; 1140-1260 cy. **$125.00**

MODEL 39-VTF, Laboratory Type (not illustrated)

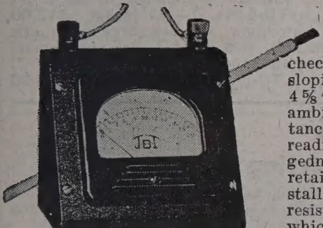
1. **Frequency Ranges:** Basic range, 380-420 cycles. Multiplier switch permits use in ranges of 2, 3, 4, 6 and 9 times the fundamental range.
2. **Voltage range:** 100-350 volts.
3. **Power consumption:** Approximately 25 watts at 115 volts. 60 cycles.
4. **Input sensitivity:** 500,000 ohms.
5. **Tubes:** 2—6N7 multi-vibrators, 1—6N7 input, 1—6J5 buffer, 1—6V6 amplifier, and 1—6X5 rectifier.
6. **Size:** Housed in cabinet 8" x 10" x 8" with sloping panel.
   39-VTF, Series A **$257.00**

Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

TEMPERATURE INDICATORS and GALVANOMETERS

For convenient, accurate indication of temperatures and small electrical quantities; for laboratory furnaces, inspection set-ups, checking heat rise of motors, transformers and coils; for remote indication of infra-red and other oven temperatures; and maintaining controlled industrial processes such as heat treating and annealing. When used with selector switch, permits centralized reading of one to ten thermocouples as in Diesel exhaust manifold applications.



Model 32-J Pyrometer in T-210 Stand, handy for quickly checking temperatures. Mounted in sloping front black metal stand 4⅝" x 4" x 3$\frac{5}{16}$". Compensated for ambient temperature. Medium resistance system, damped for quick reading on 2⅜" scale, assures ruggedness and pointer stability. To retain the 1% accuracy of the installation: use only the type and resistance of thermocouple and lead which are provided; do not cut extra lead — coil it — change in length changes calibration. A protection tube is not generally required. Many users find it convenient to keep an extra couple and lead on hand.

Model 32J in T-210 Stand

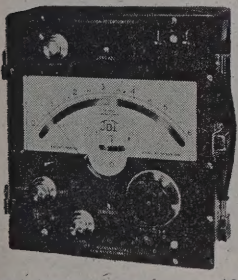
0°—650° F with SA-91 thermocouple, SA-84 lead, and CB-1 connector block $25.00

0°—1200° F with SA-87 thermocouple, SA-82 lead and CB-1 connector block $25.00

0°—2000° F with SA-87 thermocouple, SA-82 lead and CB-1 connector block $25.00

Model 32J in T-211 Stand (not illustrated)
With 3 binding posts to accommodate flexible extra lead and thermocouple for hard to reach locations.

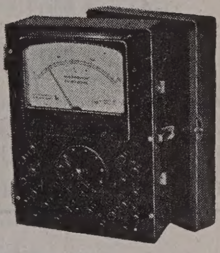
0°—650°F with SA-91 thermocouple, SA-84 lead, CB-1 connector block, and SA-86 flexible lead and thermocouple $28.00



Model 70-PO Portable Potentiometer-Pyrometer for quickly measuring and following temperatures where permanent thermocouple installations are not available; for checking existing pyrometers, recorders or controllers; for laboratory checking of instruments and materials; and as temporary substitute for instruments being repaired or replaced.

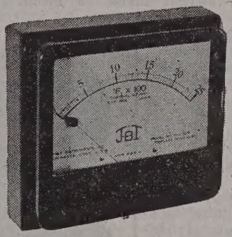
New in principle, requires no standard cell and, on most ranges, once balanced and adjusted, this instrument follows temperature changes as they occur **without further balancing.** Accurate to ½ of 1% of total scale deflection. Withstands vibration well and is compensated for changes in ambient temperatures from —40° F. to 120° F. When ordering specify range.

70-PO — 0° - 600° F. for 1938 std. I-C thermocouples
70-PO — 0° - 1200° F. for C-A thermocouples
70-PO — 0° - 2000° F. for C-A thermocouples
Price (without thermocouple or lead) $120.00



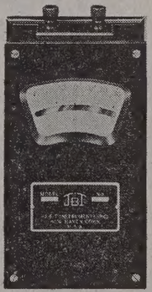
Model 60-JPS. This portable makes it easy to know temperatures at one to ten locations. Excellent for study of heat in various parts of same equipment; or in a battery of units. Knife-edge pointer, 5.6" scale. Heavy-duty thermocouple switch has average contact resistance of .00075 ohms or less. Automatically compensated for ambient temperature, indoors or outdoors. To retain accuracy of 1% full scale, use leads and thermocouples equal to resistance and e.m.f.-vs-temperature characteristics for which instrument is calibrated. Medium resistance system assures portability. Housed in natural-finish wood case 11⅜" x 8⅝" x 4⅝" over rubber feet. A "must" for inspection, maintenance, and engineering.

60-JPS — 0° - 600° F. with SA-86, 7' thermocouple and lead for small apertures $87.60
60-JPS — 0° - 1200° F. with SA-88 thermocouple and SA-82, 6' lead $90.00
60-JPS — 0° - 2000° F. with SA-88 thermocouple and SA-82, 6' lead $90.00
60-JP — For one thermocouple only; furnished with thermocouple and lead same as 60-JPS, but without selector switch.
0° - 600° F. $62.60
60-JP — 0° - 1200° F. 65.00
60-JP — 0° - 2000° F. 65.00
Note: When ordering additional thermocouples, specify couples and leads as above. Centigrade equivalent scales available on order.



Model 70-J Pyrometer, for accurate reading at a distance, has full 6 inch scale and spade pointer, with accuracy of 1% of total scale deflection. Automatically compensated for ambient temperature. Molded case mounted in steel shielding shell 7⅜"x8⅛"x1½". Connections through bottom of case for wall or front-of-board mounting. When ordering, specify which standard scale range: 0° - 650° F. for 1938 std. I-C; 0° - 1200° F. for C-A; 0° - 2000° F. for C-A thermocouples.

Price, including 24" thermocouple and 26' lead $55.00



Model G-6, Laboratory Galvanometer, double pivoted, moving coil construction, designed for high flux density, is an extremely sensitive yet rugged instrument. Lightweight 4⅛" knife-edge pointer is easy to read against 30-0-30 scale with 1 mm. divisions. Short period and ability to withstand vibration make this instrument ideal for test and production conditions. Good zero stability. Current sensitivity 3.3 micro amperes per mm. division with 6 ohm DC coil — sensitivity higher with higher resistances. Case is handsome natural finished mahogany 7¼" x 4¾" x 2¼" with heavy phenolic panel. For best results, it is recommended that galvanometer and circuit resistances be reasonably matched. Resistances are indicated by model number. **G-6, G-17, G-33, G-156, G-400,** and **G-950.** Price, each $24.50

ACCESSORIES

LEAD WIRES

To bring the reference junction within the pyrometer, compensating or extension lead wires should always be used. See the instrument dial for the kind of lead and combined resistance of lead and thermocouple. Standard leads include:

SA-82 6' compensating lead for chromel-alumel couples; duplex, stranded; asbestos-insulated, cotton-braid impregnated with moisture-proof and flame-proof compound; terminals at instrument end; other end tinned for connector block $1.40

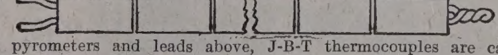
SA-83 26' compensating lead for chromel-alumel as above $4.40

SA-84 6' extension lead for iron-constantan, 1938 calibration; duplex; moisture-proof and flame-proof; prepared as above $1.40

SA-85 26' extension lead for iron-constantan, 1938 calibration; similar to above $4.40

SA-86 7' iron-constantan thermocouple and lead combined; twisted pair No. 20 Ga., asbestos-insulated—for intermittent use on 600° scales; terminals at instrument end; other end welded; resistance is not interchangeable with SA-84 and SA-85 .... $1.70

THERMOCOUPLES

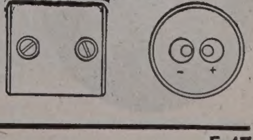


For pyrometers and leads above, J-B-T thermocouples are carefully selected, standardized, and tested.

SA-87 12" No. 14 Ga. chromel-alumel, 2-hole ceramic beads. fits $\frac{5}{16}$ hole, welded tip $2.80
SA-88 same except 24" No. 14 Ga. $3.50
SA-89 12" No. 8 Ga. chromel-alumel 2-hole ceramic beads, fits $\frac{7}{16}$" hole; welded tip. $2.80
SA-90 same except 24" No. 8 Ga. $3.50
SA-91 12" No. 14 Ga. iron-constantan, 1938 calibration; 2-hole ceramic beads, fits $\frac{5}{16}$" hole; welded tip $2.35
Flexible thermocouple, 7' length, see SA-86 lead wire.

CONNECTOR BLOCK

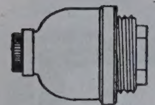
Model CB-1 Lava connector block, withstands high temperatures, accommodates all thermocouples up to No. 6 Ga. Heavy brass connectors keep contact resistance low. Can be used independent of connector head. $1.25

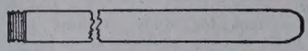


Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

PYROMETER ACCESSORIES: CONNECTOR HEAD AND PROTECTION TUBES





Model CH-6. Connector head encloses connector block and rigidly supports the protection tube around thermocouple. Can be opened to inspect thermocouple without disconnecting circuit. Normally supplied with reducing bushing for ½" i.p.s. Composition bushing at top can be removed for permanent ½" conduit installation. Including block, **$2.00**

Tubes to protect and support "base-metal" thermocouples such as above. Used in permanent installations at higher temperatures, or in damaging atmospheres. One end is closed, other end normally threaded for ½" i.p.s. Proper quality of tubing is very important.

No. 1 Wrought Iron—For temperatures to 1200° F in oil baths, brazing units, and general intermittent duty

TU-11 No. 1—12 inches....$1.50 **TU-12 No. 1—24 inches....$2.00**

No. 7 Alloy—27% chromium, iron; drilled tube; for cyanide pots, salt baths with cyanide, open fire with sulphurous content; to 2300° F.

TU-5 No. 7—12 inches....$8.00 **TU-6 No. 7—24 inches....$12.00**

No. 9 Alloy—62% nickel, 13% chromium; seamless drawn; for salt baths without cyanide; for gas and oil open fire furnaces and general use, except sulphurous atmospheres; to 2300° F.

TU-2 No. 9—12 inches......$4.50 **TU-3 No. 9—24 inches......$8.00**

INSTRUMENT and TESTER SWITCHES

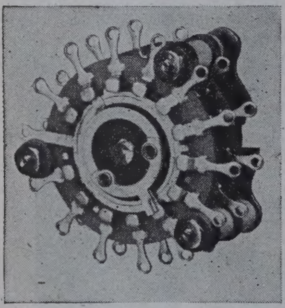
Rotary Selector—Single and Multi-Gang—Non-Shorting

J-B-T Switches are a superior type used extensively in high quality test equipment, portable instruments, inspection set-ups, and experimental circuits. Available in two basic types—14 and 20 position—both non-shorting, the design gives extra contacts in minimum space. One to six decks.

Features which now have approval under many exacting specifications in radio and electronic fields:

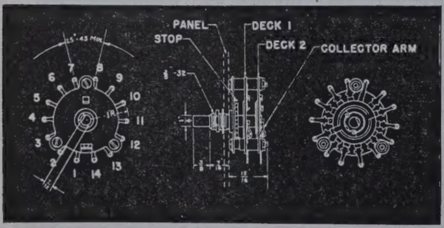
1. **Best Materials**—Special alloy spring, protected by new ball bearing contact, gives thousands of extra cycles. Heavy coin silver plating is used on contacts and moving parts. All parts plated to meet 200 hour salt spray test. Laminated plastic decks and rotors, selected for maximum mechanical and dielectric strength.
2. **Exceptional Compactness**—14 position switch takes 13 circuits and "off" in 2" circle; 20 position switch handles 19 circuits and "off" in $2\frac{23}{32}$" circle. Additional decks require only $\frac{5}{16}$" spacing per section.
3. **Low Contact Loss**—Double-grip collector arms, and on the 20 position switch, triple contacts on collector rings, resulting in an average contact resistance of .007 ohms or less during the useful life of the switch.
4. **Ample Dielectric**—Normal make and break with resistance load, 25 Ma. at 300 volts AC or DC; normal carrying capacity (not make and break), 1 amp.; maximum momentary carrying capacity (not make and break) 5 amp.; maximum voltage between contacts and ground, 1000 volts R.M.S.; between decks and ground, 2000 volts R.M.S.

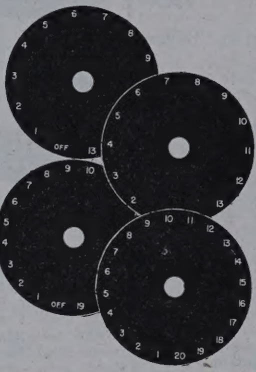
Mounting nut and knob supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat on shaft unless otherwise specified. **Contact lugs** and common lugs positioned as shown, 13 contacts per deck. **One to six decks;** for each additional deck (or gang) add $\frac{5}{16}$" to depth. **Continuous rotation type** supplied unless otherwise specified. **Stop** when required, may be positioned as specified, and may be reversed for use as panel locator. **Special stabilizing end ring** used on switches with three or more decks.



SS-14-2

SS-14-1	1 deck....**$1,35**
SS-14-2	2 decks **$1.55**
SS-14-3	3 decks..**$1.85**
SS-14-4	4 decks..**$2.35**
SS-14-6	6 decks..**$3.35**





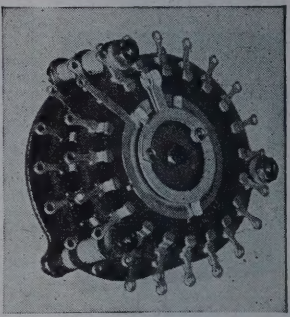
SS-14 Series
Etched Dial Plates
SS-20 Series

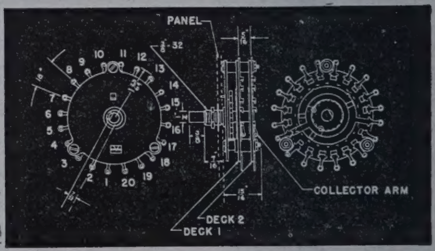
Bright raised numerals on black 2¾" dia. to accommodate knobs 2¼" and smaller. Designed for use with SS-14, and SS-20 Switches.

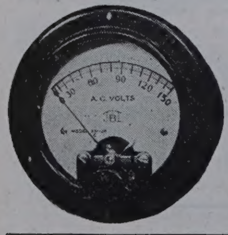
EP-13 Off thru 13	**$0.16**
EP-14 1 thru 14	**$0.16**
EP-19 Off thru 19	**$0.16**
EP-20 1 thru 20	**$0.16**

Mounting nut and knob supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat on shaft unless otherwise specified. **Contact lugs** and common lug positioned as shown, 19 contacts per deck, continuous rotation type. **One to six decks;** for each additional deck or gang, add $\frac{5}{16}$" to depth. **Panel locator** positioned as shown unless otherwise specified on bulk orders.

SS-20-1	1 deck....**$1.75**
SS-20-2	2 decks..**$2.05**
SS-20-3	3 decks..**$2.65**
SS-20-4	4 decks..**$3.15**
SS-20-6	6 decks..**$4.35**





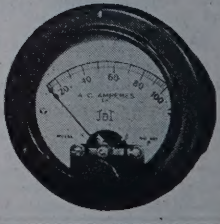


OTHER J-B-T STANDARD PRODUCTS

AC voltmeters and ammeters are manufactured is 3½" and 2½" sizes for flush panel mounting, using basic Triplett designs. Model 331, 3½" flange dia., molded case; Model 332, 3¼" flange dia., metal case; Model 231, $2\frac{11}{16}$" flange dia., molded case; Model 232, $2\frac{9}{16}$" flange dia., metal case. On special order, they can be made to AWS C39.2-1944 specifications such as MR35W150ACVV.

OTHER J-B-T PRODUCTS

Portable volt-ohmmeters, temperature testers, micro-resistance thermometers and accessories, various vibrating reed tachometers and frequency testers, also mono-potentiometers will become standard products when civilian production is authorized.



Keep in Touch With Your Distributor.

Industrial Instruments

Electrical Test Equipment

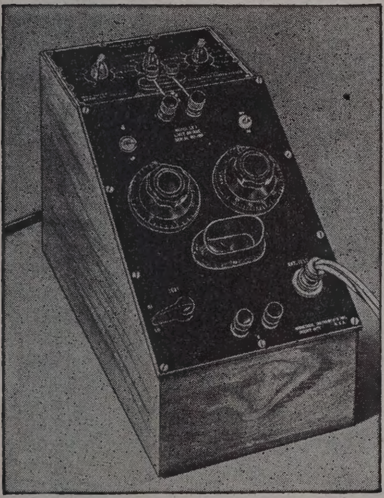
THE WHY OF "INDUSTRIAL INSTRUMENTS"

- In the design of production test apparatus the aim of "Industrial Instruments" is to take basic laboratory technique and, using the tried and tested principles that are known to give high accuracy, adapt them to plant production use. In so doing the following goals are set and adhered to:

1. To retain the inherent accuracy and reliability of accepted laboratory circuits and techniques
2. To aim at modification toward simplicity so that the factory layman can use instruments without previous knowledge of them.
3. To increase the speed of readings for production use by utilizing basic laboratory circuits with novel adaptations.

Herewith listed are representative standard instruments. Other instruments are also available Furthermore, special instruments can be designed and built.

CAPACITY LIMIT BRIDGE



For high-speed production testing of capacitors and inductances for conformance with tolerance specifications. Negligible setup time, great flexibility, wide range, accuracy, extreme ruggedness, moderate cost. Normally supplied complete with Decade Capacitor Model DK-2AA providing capacitance standards in .001 mfd. steps from .001 to 1.11 mfd.

This is a modified Wheatstone Bridge with high and low limit dials. Two "magic eyes" provide high and low indications. Self-incorporated switch-operated relays provide speed test operation either from switch on panel or at test fixture.

Accuracy: Plus/minus 1% of standard. Unaffected by line voltage variations and tube characteristics. **Range:** Measures impedance at 60 cycles from 600 ohms to 2.6 megohms. Capacitors from .001 to 4 mfd. Inductors from 2 to 7000 henries. Limit dials continuously variable—any tolerance between 0 and 30% low, and 0 and 40% high. **Speed:** Up to 1000 capacitors per hour. Instantaneous readings—no needle to come to rest. Hardwood case. Sloping bakelite panel. 15 x 8 x 10" high.

MODEL LB-1-DK2AA Capacitance and Impedance Limit Bridge with Decade Capacitor covering range .001 mfd. to 1.11 mfd. in .001 steps. Wt. 20 lbs. net; 22 lbs., shipping..........$180.00

MODEL LB-1 Capacitance and Impedance Limit Bridge alone for use with external standards. Wt. 14 lbs. net; 16 lbs., shipping..........$105.00

MODEL TL-1 High-Speed Test Fixture for use with above. Wt. 7 lbs. net; 10 lbs., shipping..........$20.00

RESISTANCE LIMIT BRIDGE

For high-speed production testing. Features negligible setup time, great flexibility, wide range, accuracy, extreme ruggedness. Built-in D.C. source. Balance indicated by sensitive galvanometer. Normally supplied with Model DR-1 Resistance Decade providing resistance standard in 1000 ohm steps from 1000 to 999,999 ohms. Other ranges available.

This is a modified Wheatstone Bridge with high and low limit dials. Self-incorporated switch-operated relays for speedy test operation either from switch on panel or on test fixture. Used with external resistance standards, will check resistors between 1 ohm and 3 megohms. External batteries may be used for other voltages.

Accuracy: Model LB-2, guaranteed to plus/minus 1% of standard; Model LB-3, plus/minus .1%. **Range:** LB-2, from 1 ohm to 3 megohms. Limit dials continuously variable for any tolerance between 0 and 30% low, and 0 and 40% high. Model LB-3, same resistance range but limits from plus/minus 0 to 11% in .1% steps.

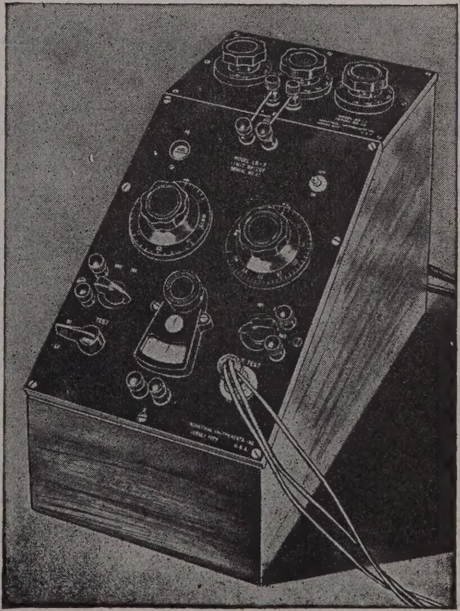
Hardwood case. Bakelite sloping panel. 15 x 8 x 10" high.

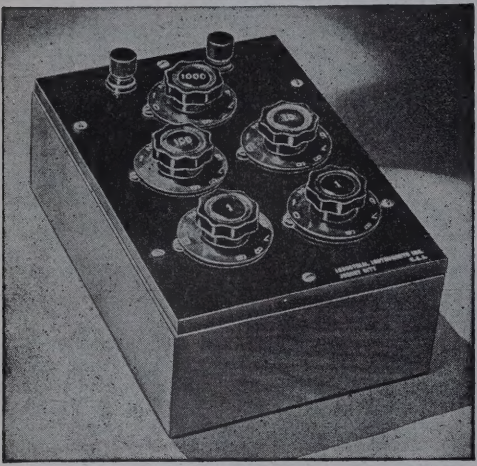
LB-2 DR-1 Resistance Limit Bridge with Resistance Decade, 1000 to 999,999 ohms, in 1000 ohm steps. Wt.: 19 lbs.. net; 23 lbs. shipping..........$145.00

LB-2 Resistance Limit Bridge singly for use with external standards. Wt.: 12 lbs. net; 16 lbs. shipping..........$105.00

LB-3 Resistance Limit Bridge, with accuracy of plus/minus .1%, for use with external standards. Wt.: 12 lbs. net; 16 lbs. shipping..........$150.00

DR-50 Resistance Decade, range .1 ohm to 9,999.9 ohms in .1 ohm steps. Accuracy .1%. Wt.: 5 lbs. net; shipping 8 lbs.....$55.00





RESISTANCE DECADES

Standard models with resistance ranges of .9 to 999,999 ohms total. Individual units and combinations available for any effective range between .1 ohm and 1 megohm.

Manganin-wire bifilar-wound coils with exception of 10,000 ohms and above, which are nichrome wire non-inductively wound. Ceramic cores. Oven aged and dipped. Switches are self-cleaning type, with four-leaf phosphor-bronze spring wipers and detent mechanism for position location on switch points. All switches and resistors mounted below panel for protection.

Accuracy: Models DR-1 and DR-2 guaranteed to plus/minus 1% of nominal. Other models guaranteed to plus/minus .1% of nominal value and adjusted to .05% in manufacture, excepting values below 1 ohm which are guaranteed to plus/minus .25% of nominal. Zero resistance, .025 ohm or less.

Model	Total Ohmage	Decade Steps	Accuracy	Price
DR-1	999,000	9 x (1,000 + 10,000 + 100,000)	± 1%	$ 40.00
DR-2	99,900	9 x (100+ 1,000 + 10,000)	± 1%	40.00
DR-3	9,990	9 x (10 + 100 + 1,000)	±.1%	35.00
DR-4	999	9 x (1 + 10 + 100)	±.1%	35.00
DR-10	.9	9 x .1	±.1%	16.00
DR-11	9	9 x 1	±.1%	16.00
DR-12	90	9 x 10	±.1%	16.00
DR-13	900	9 x 100	±.1%	16.00
DR-14	9,000	9 x 1,000	±.1%	18.00
DR-50	9,999.9	9 x (.1 + 1 + 100 + 1,000)	—.1%	55.00
DR-51	99,999	9 x (1 + 10 + 100 + 1,000 + 10,000)	—.1%	60.00
DR-52	999,990	9 x (10 + 100 + 1,000 + 10,000 + 100,000)	—.1%	100.00

DR-1 to DR-4: 5¾ x 8 x 4″ high. Net wt. 4 lbs:; shipping, 6. DR-10 to DR-14: 4⅛ x 6 x 4″ high. Net wt. 3 lbs.; shipping, 5. DR-50 to DR-52: 6⅛ x 9 x 4¼″ high. Net wt. 5 lbs.; shipping, 7 lbs.

WHEATSTONE BRIDGE

A sturdy, carefully engineered instrument for service in laboratory or plant. Entirely self-contained with galvanometer and 4½ volt battery. External galvanometer and batteries may be used if desired.

Both models have ratio dial settings of .001, .01, .1, 1, 10, 100 and 1000, as well as built-in resistance standards of 1, 10, 100 and 1000 ohm decades. Model RN-2 has both Murray and Varley loop circuits with additional multiplier steps on ratio dial for Murray loop. **Accuracy:** Ratios are guaranteed to .05% tolerance, and resistance dial resistors to .1% of nominal value.

Self-cleaning switches with four phosphor-bronze spring wipers and detent mechanism for position location on switch points. Switches and resistors mounted below panel for protection. Manganin-wire bifilar-wound coils on ceramic cores, oven aged and dipped, and finally adjusted to .05%. Galvanometer of well-known moving coil type. Pointer dial has fifteen 1 milliameter divisions each side of zero. Adjusting knob and safety clamp. Sensitivity of 1 microampere per milliameter. Hardwood case with slide-type hinges for removable cover. 9¼ x 7½ x 6¼″ high.

MODEL RN-1. Standard Portable Wheatstone Bridge complete with batteries, ready to operate. Wt. 9 lbs. net; shipping, 12 lbs. $90.00

MODEL RN-2. Standard Portable Wheatstone Bridge with Murray & Varley loops, complete with battery ready to operate. Wt. 9¼ lbs. net; shipping, 12¼ lbs. $110.00

VOLTAGE BREAKDOWN TESTERS

A simple, positive, safe and quick means of testing voltage breakdown of materials or components. Step-up transformer is accurately controlled by Variac. By an ingenious switching arrangement connected directly to Variac, varying resistance is placed in circuit to limit load to approximately 5 milliamperes over full range of Type P-1 (illustrated) for SAFETY. Also, safety switch makes power supply inoperative if chassis is removed from case.

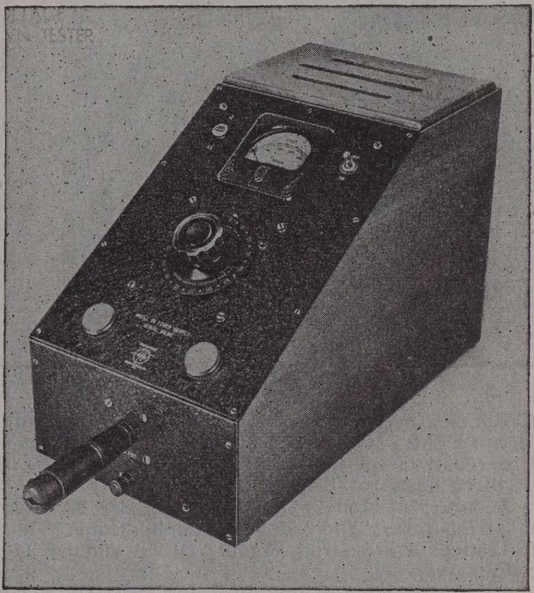
Operates directly on A.C. line. Green light indicates when instrument is operative. Red light flashes to indicate voltage breakdown of sample. Direct reading taken from meter.

Range: Type P-1 or small model (shown) continuously variable from 0 to 4000 volts D.C. Type P-2, similar to P-1, but has an A.C. high-potential outlet in addition to D.C. voltage. Model P-3 or large upright cabinet model (not shown) has range from 0 to 10,000 volts D.C., and A.C. outlet for 0 to 8000 volts, with short-circuit current limit of 50 milliamperes.

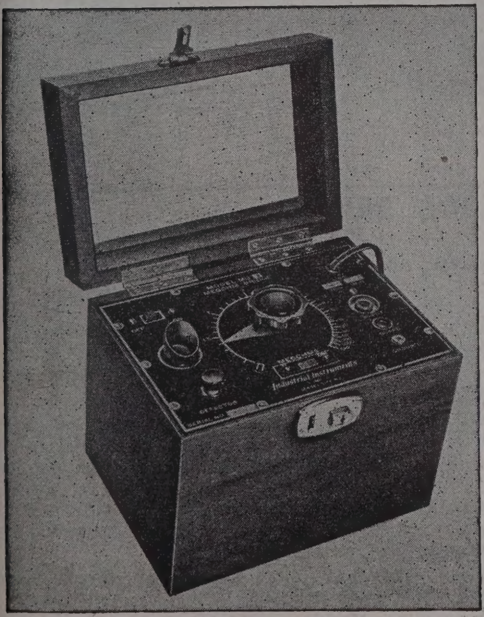
MODEL P-1 Voltage Breakdown Tester, complete with tubes, ready to operate. Hardwood case with sloping metal panel. 15 x 8 x 10". Wt. 29 lbs. net; 32 lbs. shipping. $150.00

MODEL P-2 Voltage Breakdown Tester, complete with tubes, ready to operate, with added 0-3000 volts A.C. outlet. Hardwood case with sloping metal panel. 15 x 8 x 10" high. Wt. 29 lbs. net; 32 lbs. shipping........................$200.00

MODEL P-3 Voltage Breakdown Tester, complete with tubes, ready to operate. Upright metal cabinet. 15 x 21 x 28" high. Wt. 150 lbs. net; 195 lbs. shipping..............$350.00



MEGOHM BRIDGE



A rapid, accurate instrument for routine insulation tests. Simple, compact, portable. Equally useful to laboratory and non-laboratory workers for accurate, instantaneous readings.

This instrument is an adaptation of the Wheatstone Bridge, utilizing the "magic eye" indicator in place of costly and delicate galvanometer. Operates entirely from A.C. power line. Self-contained D.C. supply. Unaffected by line voltage variations. When testing capacitors and high-capacity cables, it automatically charges the tested unit as soon as connected with test terminals, thus facilitating rapid testing.

Accuracy: Within 5% from 1 to 15 on scale, and as close as readabye on remainder of scale. Hardwood case with slip-hinge removable cover. Wt. 6¼ lbs. net; shipping, 8¼.

MODEL MB-4. 100 megohms to 100,000 megohms. 500 volt D.C. bridge source $60.00

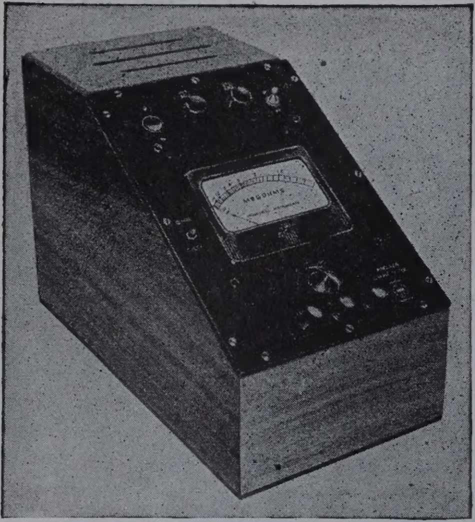
MODEL MB-6. 100,000 ohms to 100 megohms; 10 megohms to 10,000 megohms $60.00

BODEL MB-8. 1 megohm to 1,000 megohms; 100 megohms to 100,000 megohms $75.00

MODEL MB-11. 1 megohm to 1,000 megohms; 10 megohms to 10,000 megohms; 100 megohms to 100,000 megohms.......$120.00

Industrial Instruments

Electrical Test Equipment



MEGOHM METER

For high-speed testing of capacitor leakage resistance, insulation resistance and insulation measurements in production and inspection of components. Extra charging terminals charge capacitors prior to test. Broad scale meter dial with wider than usual spacing at high end of scale.

Self-contained source applies voltage not exceeding 200. External battery voltage may be used up to 1000 volts. Internal checking standard enables operator to check and adjust calibration. Stability of operation, assured.

Accuracy: Within plus/minus 3% of full scale from infinity position on meter. **Range:** 1 megohm to 100,000 megohms on four multiplier ranges of 1, 10, 100 and 1,000. Highest range can be extended up to 500,000 meegohms by using external 1,000 volt D.C. supply.

Hardwood case. Sloping bakelite panel, 15 x 8 x 10″ high. Wt. net 19 lbs.; shipping, 25.

MODEL L-2A Megohm Meter complete with tubesfi ready to operate $145.00

MODEL L-2AU Universal Model for use on 110-220 V. A.C. power line available on special order........ $160.00

CAPACITY DECADES

Calibrated directly in capacitance so that reading from left to right, dial settings give exact value in microfarads. Progressive adjustments in small uniform steps by means of three dials rotating parallel switches.

Accuracy of Models DK-3, DK-4 and DK-2A adequate for most laboratory and industrial applications. Where closer tolerances are desired, Models DK-10 and DK-11 are recommended.

Hardwood cabinet. Bakelite top. DK-3, DK-4, DK-10 and DK-2A, 7 x 8 x 5½″ high; DK-11, 11 x 8¼ x 7″ high. Weight: DK-3, DK-4, DK-10 and DK-2A, net 8 lbs.; shipping, 10 lbs. DK-11, net 10 lbs.; shipping, 12 lbs.

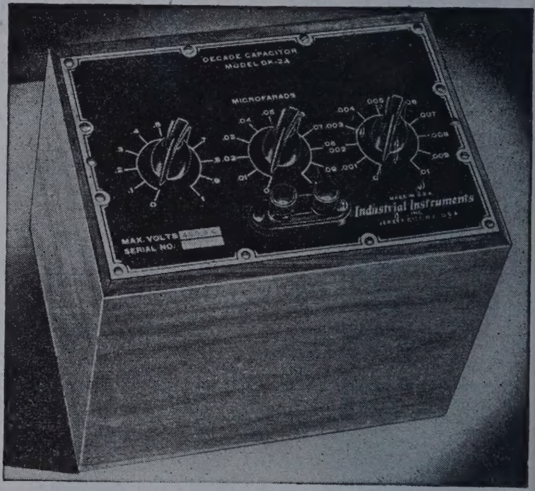
MODEL DK-3. 11.1 mfd. in .01 mfd. steps. 1% accuracy. Paper dielectric. 1% P.F. 150 D.C. Peak Volts........ $40.00

MODEL DK-4. 1.11 mfd. in .001 mfd. steps. 1% accuracy. Paper and mica dielectric. 1% and .2 P.F. 150 and 700 D.C. Peak Volts........ $40.00

MODEL DK-2A. 1.11 mfd. in .001 mfd. steps. 1% accuracy. Mica dielectric throughout, .2% P.F. 700 D.C. and 500 A.C. Peak Volts $75.00

MODEL DK-10. .111 mfd. in .001 mfd. steps. .5% or 10 mmfd. accuracy. Mica dielectric. .2% P.F. 700 D.C. and 500 A.C. Peak Volts........ $100.00

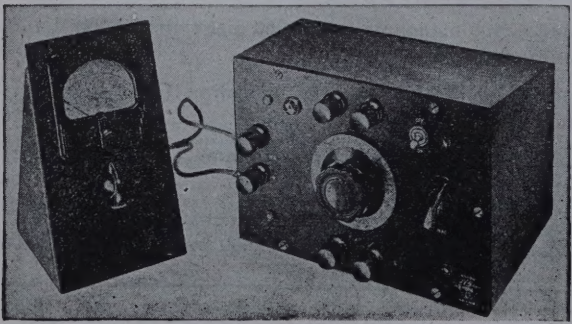
MODEL DK-11. 11.1 mfd. in .01 mfd. steps. 1% and .5% accuracy. Paper and mica dielectric. 1% and .2% P.F. 150 D.C., 700 D.C. and 500 A.C. Peak Volts........ $125.00



DIRECT-READING COMPARISON BRIDGE

A.C. slidewire bridge with vacuum tube null indicator arranged so that resistors, capacitors or inductors can be compared with similar standard. Covers range of approximately plus/minus 50% of value of standard.

Designed specifically for rapid production testing where moderate accuracy is required. Since slidewire is uncalibrated, external standards are used. Resistors, capacitors or inductors under test are connected to "X" terminals, and rejected or passed by direct reading of meter. Components outside limits set up will result in meter deflection greater than set value. Limits may be set for any combination of high and low values such as minus 5% plus 14%.



Range: Capacitance, between .0001 and 1.0 mfd. Resistance, between 2000 ohms and 20 megohms. Inductance, between 5 and 50,000 henries. Bridge source voltage, 75 volts at line frequency. **Accuracy:** Sensitivity and stability permit successful operation within limits set as close as plus/minus 5%, or as wide as plus/minus 50% of nominal.

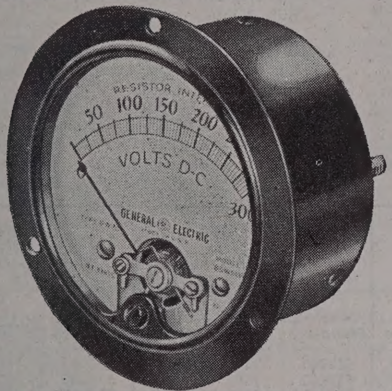
Hardwood cabinet. 7 x 8 x 5½″ high. Metal meter stand. Wt. 6 lbs. net; shipping, 8 lbs.

LB-10 Comparison Bridge, complete with tubes, milliammeter, and meter stand, ready to operate.... $60.00

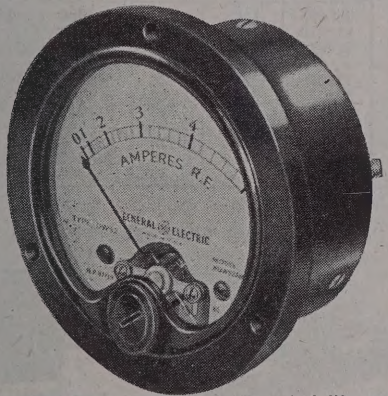
ELECTRIC INDICATING INSTRUMENTS

For Panel Mounting

Internal-pivot Direct-current and Radio-frequency Types



Type DW-51 voltmeter in a metal (brass) case



Type DW-52 ammeter in a molded Textolite case

These small panel instruments are particularly suitable for use in radio and other communications equipment where compactness, especially minimum depth behind the panel, is essential. Thinness is obtained by the use of a unique single-unit, high-torque element of the permanent-magnet, moving-coil type. In this element, the pivots, instead of being secured to the outside of the armature winding, are solidly mounted on the **inside** of the armature shell..

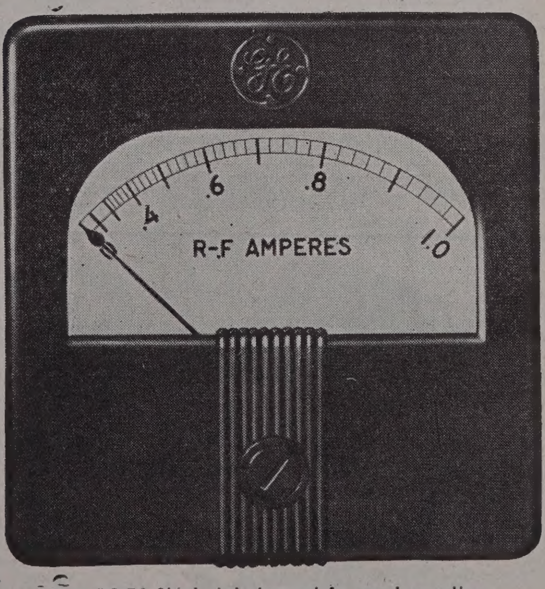
G-E internal-pivot instruments are available in a variety of standard ratings to measure direct current and voltage (Type DW-51), and radio-frequency current (Type DW-52). They are of the 2½-inch classification. The depth behind the panel is 0.89 inch for the molded Textolite case; 1.03 inches for the metal case.

OTHER TYPES

Many other types of G-E indicating instruments are available for panel mounting. They include 3½-inch a-c, d-c, r-f, and rectifier types in standard round cases as well as in rectangular cases, such as the one shown below. Also 2½-inch alternating-current instruments. Still other types can be supplied to meet unusual requirements.

LISTINGS

Range	Approx. Resistance in Ohms	Cat. No.	List Price
1	1,000	258X65	$10.50
5	5,000	258X68	10.50
20 volts	20,000	258X72	10.50
50	50,000	258X74	10.50
100	100,000	258X76	11.00
150	150,000	258X77	11.75
1	25	258X90	8.50
5	7.4	258X93	7.50
25	2.16	258X96	7.50
100 milliammeters	.50	258X98	7.50
200	.252	259X1	7.50
500	.100	259X4	7.50
50	2,030	259X5	22.00
100 microammeters	693	259X7	19.50
200	302	259X9	12.75
500	68.5	259X11	12.75
1	.29	259X13	14.50
5 amperes (r-f)	.034	259X16	14.50
10	.017	259X19	14.50
100	6.8	259X22	16.50
200 milliammeters (r-f)	4.0	259X25	16.50
500	.68	259X28	16.50

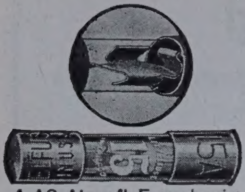


Type DO-54 3½-inch instrument for panel mounting

LITTELFUSE *"Quicker than a Short Circuit"*

AIRCRAFT LITTELFUSES — ANTI-VIBRATION TYPE

Especially designed for Aircraft Service. Characteristics: High Mechanical Strength—Resistance to Fatigue—Long Vibration Life


4 AG Aircraft Fuse showing reinforced twisted element. (Note clear label.)

Bakelite-enclosed 4 AB Fuse.

CONSTRUCTION: Glass-enclosed. Littelfuse Locked Cap Assembly (no cements) prevents loosening of caps. High visibility transparent label for amperage. Elements mechanically depolarized by twisting at 90° (see illustrations) are braced against extreme vibration. "Gooseneck" non-crystallizing fuse element takes up expansion and contraction. Ratings 5 amps. or less use Spring and Link. Service life six times simple wire. The 4 AG and 5 AG sizes are supplied for Aircraft Services for their strength and greater carrying capacity than 3 AG fuses.

BAKELITE-ENCLOSED: 4 AB and 5 AB fuses recommended where severe overloads might shatter glass.

CURRENT RATING: Rated to NEC specifications to carry 10% overload indefinitely, to blow on 35% overload within 1 hr., and 100% overload within 2 min.

VOLTAGE RATING: Voltage at which fuses will break without arcing over, or bursting under short circuit conditions.

VIBRATION FACTOR: Minimum hours these fuses endure our Magnetic Vibrator operating 120 cycles a second, while carrying the rated current. Acceleration is 10 times the worst field conditions.

4AG, 4AB, 5AG, 5AB FUSES Intermediate amperages furnished for 20% additional price			**4AG FUSES** 1¼" x 9/32" Dia. Unit wt.—3.5 Gms.			**4AB FUSES** 1¼" x 9/32" Dia. Unit wt.—3.75 Gms.			**5AG FUSES** 1½" x 13/32" Dia. Unit wt.—8.5 Gms.			**5AB FUSES** 1½" x 13/32" Dia. Unit wt.—9.0 Gms.		
Vibration Factor	Ampere Rating	Volts	**Catalog Number**	Old Cat. No.	**List Price**	**Catalog Number**	Old Cat. No.	**List Price**	**Catalog Number**	Old Cat. No.	**List Price**	**Catalog Number**	Old Cat. No.	**List Price**
100+	1	250	**412001**	1091	**$0.15**	**415001**	1091B	**$0.25**	**512001**	1160	**$0.15**	**514001**	1160B	**$0.30**
100+	2	250	**412002**	1092	**.15**	**414002**	1092B	**.25**	**512002**	1161	**.15**	**514002**	1161B	**.30**
100+	3	250	**413003**	1093	**.15**	**414003**	1093B	**.25**	**512003**	1162	**.15**	**514003**	1162B	**.30**
500+	5	32	**411005**	1094	**.15**	**414005**	1094B	**.25**	**511005**	1163	**.20**	**514005**	1163B	**.30**
500+	10	32	**411010**	1095	**.15**	**414010**	1095B	**.25**	**511010**	1164	**.20**	**514010**	1164B	**.30**
500+	15	32	**411015**	1096	**.15**	**414015**	1096B	**.25**	**511015**	1165	**.20**	**514015**	1165B	**.30**
500+	20	32	**411020**	1097	**.15**	**414020**	1097B	**.25**	**511020**	1166	**.20**	**514020**	1166B	**.30**
500+	25	32	**411025**	1098	**.15**	**414025**	1098B	**.25**	**511025**	1442	**.24**	**514025**	1442B	**.36**
500+	30	32	**411030**	1099	**.15**	**414030**	1099B	**.25**	**511030**	1167	**.20**	**514030**	1167B	**.30**
500+	35	32	**411035**	1438	**.18**	**414035**	1438B	**.30**	**511035**	1443	**.24**	**514035**	1443B	**.36**
500+	40	32	**411040**	1100	**.20**	**414040**	1100B	**.30**	**511040**	1168	**.30**	**514040**	1168B	**.35**
500+	50	32	....	....	....	....	....	....	**511050**	1169	**.30**	**514050**	1169B	**.35**

Standard Package 100. Weights standard packages: 4AG, 2 lbs., 4AB, 2 lbs., 5AG, 4 lbs., 5AB, 4 lbs.

LITTELFUSE AIRCRAFT FUSE MOUNTINGS

No. 441001 (1212)

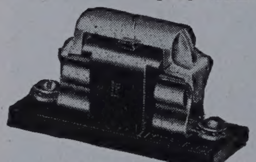
No. 441002 (1212-C)

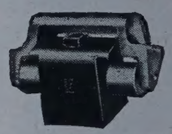
No. 442001 (1212-B)

Cat. No.	Old Cat. **No.**	Dia. Mtg. Hole	Length Under Panel	Knob How Operated	Wt. Gms.	**List Price Each**
441001	1212	⅝"	2¼"	Screw Driver*	23.5	**$0.65**
442001	1212B	⅝"	2¼"	Finger	24	**.75**
441002	1212C	Similar to 441001 but front mounted		Screw Driver*	25	**.75**
611001†	1245	⅞"	3⅛"	Finger	111	**2.00**
611002‡	1246	1⅛"	3¾"	Finger	230	**2.50**

*As required by Underwriters' Laboratories. †Used with 603000 Series (1235) Hi-Amp Element. ‡Used with 605000 Series (1236) Hi-Amp Element. Standard Package 20.

5AG BREAKERETTE

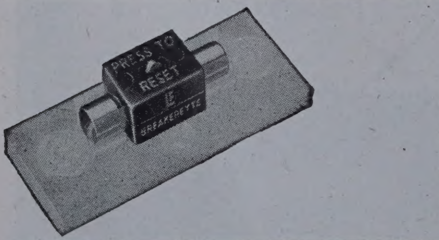

Breakerette mounted on panel in circuit


Breakerette removed from panel with shroud lowered for resetting

(Push Breaker Type)

Reset protection in breaker form, interchangeable with all 5 AG size fuses, or Navy "midget" size.

Rated at 3 to 50 amps., 32 volts AC or DC. Snap action break, capable of interrupting short circuits of 1000 amps., in ratings up to 5 amps.; and 2500 amps., in ratings over 5 amps. High time lag. Construction provides trip free, and non-trip free features. Only 2 moving parts. Extremely small and light. Case molded black bakelite. Extreme dimensions 1⅞" long, ¾" wide, overall height with trip shield, 1¼". Wgt. 15 to 18 gms. Fits into clips on ⅞" spacing or more.



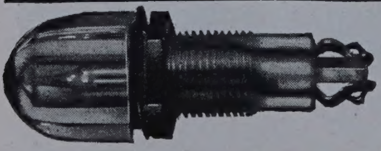
NON-TRIP-FREE 3AG BREAKERETTE

Interchangeable with 3 AG and SFE 20 Amp. Fuses (1¼" x ¼" dia.)

Reset protection in circuit breaker form (non-switching type), physically and electrically interchangeable with all 3 AG or SFE 20 amp Auto Fuses. Ranges: 1 amp to 20 amps.

Maximum rating 12 volts; interrupting capacity 500 amperes. Can be used in place of fuses on existing installations, or mounted without fuse clips on new installations. For use in automobiles, trucks, airplanes, battery chargers, "A" battery eliminators, pin ball machines and coin operated machines.

Full details may be obtained from Littelfuse Incorporated, 200 Ong St., El Monte, California, or 4757 Ravenswood Ave., Chicago 40, Illinois. Address nearest office.



PILOT LIGHT POST No. 201005 (591)

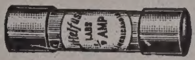
A signal indicating light for panel mounting. Completely enclosed in water-clear plastic. Built-in neon lamp and resistor. For use on 115 volts AC or DC. Maximum panel thickness 17/32". Extends 25/32" in front of panel. Overall size ⅝" x ⅝" x 2 3/16" long. Write for full details and prices.

LITTELFUSE

"Quicker than a Short Circuit"

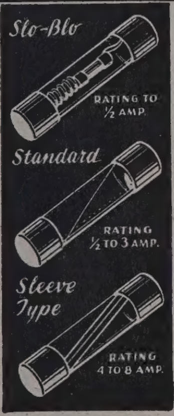
8AG INSTRUMENT *high speed* LITTELFUSES

Locked Cap Assembly and other exclusive Littelfuse features for protection of delicacte test equipment, galvanometers, microammeters, milliammeters, voltmeters, etc. Glass-enclosed; 1 x ¼" dia., accurately rated, high speed action, short time lag. Voltage ratings up to 250 V., AC or DC. For higher voltages use fuses in series.



($100 protection guaranty against meter burnouts.)

Cat. No.	Old Cat. No.	Rating Amps.	Max. Load M. A.	Average Resist. 5 M. A. Load	APPLICATIONS			List Price Each
					Voltmeters Ohms P. V.	All Magnetic Movement Milliammeters	Thermo-couples	
361005	1000	1/200	5	500	Over 1000	Galvanometers	Up to 0-5	**$0.30**
361010	1001	1/100	10	110	1000	Up to 0-1	0-5 to 0-10	**.20**
361031	1002	1/32	25	20	500-1000	0-1 to 0-10	0-10 to 0-25	**.20**
361062	1003	1/16	60	5.0	100-500	0-10 to 0-25	0-25 to 0-60	**.20**
361125	1004	1/8	100	3.0	20-100	0-25 to 0-75	0-75 to 0-150	**.15**
360036	1004-L	1/8		1.5	Same as No. 1004, but lower resistance.			**.20**
361250	1005	1/4	200	6.2	10-20	0-75 to 0-150	0-115 to 0-200	**.15**
361375	1006	3/8	300	3.0	5-10	0-150 to 0-250	0-200 to 0-300	**.15**
361500	1007	1/2	400	2.5	3-5	0-250 to 0-350	0-300 to 0-400	**.15**
361750	1007-A	3/4	600	.40		0-350 to 0-500	0-400 to 0-600	**.15**
361001	1008	1	1000	.24		0-500 to 0-750	0-600 to 0-1000	**.10**
361015	1008-A	1½	1500	.18		0-750 to 0-1000	0-1000 to 0-1500	**.10**
361002	1009	2	2000	.14		0-1000 to 0-1500	0-1500 to 0-2000	**.10**
	Special	3 to 15	Instrument Littelfuses for ranges up to 15 amps. will be made on request.					**.15**


Slo-Blo
RATING TO ½ AMP.
Standard
RATING ½ TO 3 AMP.
Sleeve Type
RATING 4 TO 8 AMP.

UNDERWRITERS' APPROVED LITTELFUSES

3 AG GLASS FUSES—250 Volts

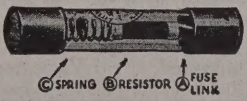
Littelfuse is the first manufacturer to receive Underwriters' approval of 3 AG fuses (1¼" x ¼" dia.) in current ratings over 3 amps. at 350 volts. Following list gives standard approved ratings carried in stock. However, the Underwriters' **approval to Littelfuse is a blanket approval from ⅛ to 6 amps. Intermediate ratings can be furnished without separate approval,** at a small extra charge. Littelfuse name, the amperage and voltage rating must appear on the fuse caps of approved fuses. Many new fields are opened up by the extension of approval from 3 to 6 amps., where formerly bulky cartridges or plug fuses and their mountings were used. **This applies specially to electrical appliances, heavy duty power supplies, amplifiers, radios, communication equipment, electronic devices, motors, etc.**

Rating up to ½ Ampere—250 Volts

Cat. No.	Old Cat. No.	Rating Amps.	Ohms	List Price Each
313010	1259	1/100	3000	**$0.30**
313032	1261	1/32	450	**.30**
313062	1262	1/16	100	**.25**
313125	1263	1/8	28	**.25**
313187	1263-A	3/16	20	**.25**
313250	1264	1/4	8	**.25**
313375	1265	3/8	4	**.25**

CONSTRUCTION

Made in Littelfuse Slo-Blo construction. A carbon pellet provides the heat inertia. (A) melts on short circuits. (A) separates from (B) on sustained overloads.



Ratings ½ Ampere to 3 Inclusive—250 Volts

Cat. No.	Old Cat. No.	Rating Amps.	Ohms	List Price Each
312500	1046	1/2	1.0	**$0.15**
312750	1047	3/4	.5	**.15**
312001	1040	1	.22	**.07**
312002	1041	1-1/2	.14	**.07**
312003	1042	2	.10	**.07**
312015	1043	3	.07	**.07**

Littlefuses of this group are of the standard straight link type. Elements are rosin coated to prevent oxidation in service, and to promote a clean break on fusion.

Ratings 4 to 8 Amperes Inclusive—250 Volts

Cat. No.	Old Cat. No.	Rating Amps.	Ohms	List Price Each
312004	1357	4	.036	**$0.10**
312005	1358	5	.016	**.10**
312006	1359	6	.012	**.10**
312008	1360	8	.010	**.15**

Std. Pkg. 100; wt., 1½ lbs.

This is the new Littelfuse "Sleeve Type" 3 AG fuse that made possible the higher approved ratings on this relatively small fuse. (Pat. Pend.) A separate glass sleeve over the entire fuse element takes the pressure shocks under short circuits. (On th 8 ampere rating the sleeve is powder packed.)

4 AG VACUUM LITTELFUSES

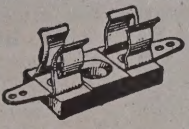
Cat. No.	Old Cat. No.	Rating Amps.	Blow Point M. A.	Resistance Ohms (Approx.)	List Price Each
461001	1331	1/1000	1.5	250	**$0.60**
461002	1332	1/500	3.0	100	**.60**
461005	1333	1/200	7.5	30	**.60**
461032	1334	1/100	15	20	**.60**
461032	1335	1/32	45	16	**.60**
461062	1336	1/16	90	13	**.60**
461125	1337	1/8	150	5	**.60**

Std. Pkg. 100; wt., 1 lb.

For lower voltage types of television, bolometers, X-ray equipment, delicate instrument protection. Suitable for 3000 volts AC and 1000 volts DC. Especially well designed to protect delicate thermocouples of approximately their own rating, because of the low lag characteristics. Glass enclosed, 1¼" long x 9/32" dia.

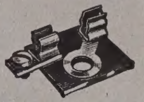
MOUNTINGS FOR 8AG LITTELFUSES

Single Pole



Cat. No. 381001 (1010)—Black bakelite base, 1⅛" x ⅝". Overall length 1⅞". Height ⅝". Tinned shakeproof terminals. Phosphor bronze nickel-plated fuse clips. Mounting hole takes No. 8FHMS. Std. Pkg. 20. Wgt. ½ lb. List PRICE EA. $0.15.

METER BACK MOUNTING

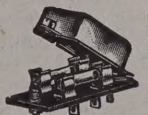


Cat. No. 383002 (1059)—Mounts directly on meter binding post. Will not touch other posts on smallest standard meter. Linen bakelite base, 1" x 1⅛". Length over screw terminal, 1½". Std. Pkg. 20. Wgt. ½ lb. **List Price Each..................$0.20**

MOUNTINGS FOR 3AG LITTELFUSES

Hinged Cover Type

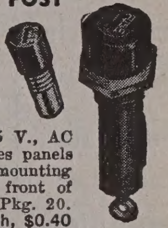
(Meets Underwriters Requirements)



Cover fibre-lined. Metal shielded cover hinged to bakelite base. Terminal mounting extends through insulated base. Nut lightly staked to cover to prevent loss. Requires 1⅝" x 1⅛" knockout hole in panel. Two 6-32" x $\frac{5}{16}$" mounting studs at 2⅛" centers. Base 2½" x 1¼". ¾" high above panel. Std. Pkg. 20.

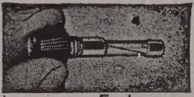
Cat. No.		List Price Each
351008 (1237A)	Double Pole	$0.60
351005 (1379)	Single Pole	.30

EXTRACTOR FUSE POST



Cat. No. 341001 (1075-S) —Black bakelite panel mounting. To use, insert Littelfuse in knob and screw knob into post. **Meets Underwriters Specifications.** For 3 AG fuses, 10 amp. max., 125 V., AC or DC. Shock proof. Takes panels up to $\frac{5}{16}$" thick, $\frac{17}{32}$" mounting hole. Length 2⅛" from front of panel, 2½" overall. Std. Pkg. 20. Wgt. 1 lb. **List Price Each, $0.40**

Finger-Operated EXTRACTOR POST

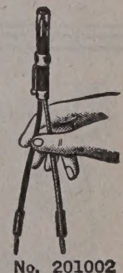


Cat. No. 342001 (1075F) — Same as above, but finger operated. Std. Pkg. 20. Wgt. 1 lb.

List Price Each......................................$0.45

POCKET TYPE NEON TESTER

Has built-in 200,000 ohm resistor. Will not blow up as ordinary test lamps. Uses 122-1 lamp. Tests for live lines, polarity, and whether AC or DC, RF, blown fuses; defective spark plugs, cables, etc. Indicates approximate voltage (110, 220, 440, etc.) grounded lines, open circuits or shorts. Full directions. Packed 10 to a display card and in individual boxes.



No. 201002 (5076)

Cat. No.	Old Cat. No.	For Voltages	List Price Each
202002	5420	6 to 50 AC or DC	**1.75**
201002	5076	90 V DC 60 V AC to 500 V AC or DC	**1.00**

LITTELFUSE *"Quicker than a Short Circuit"*

LITTELFUSE
BERYLLIUM COPPER AND PHOSPHOR BRONZE FUSE CLIPS

Littelfuse manufactures both Beryllium Copper and Phosphor Bronze Fuse Clips. Beryllium Copper, a new alloy, has spring qualities of steel. It has great resistance to corrosion and vibration. Littelfuse Phosphor Bronze Clips are made from a fine homogenous metal of high tensile strength, elasticity, resistance to fatigue, corrosion and wear. They are recommended where requirements are not so severe and price is a factor.

LITTELFUSE BERYLLIUM COPPER FUSE CLIPS
Silver Plating Standard Finish (Standard Package: 100)

Cat. No.	Old Cat. No.	USE FOR	Height	Width	Fuse Dia.	Weight per 100 (Lbs.)	Weight Each GMS.	Shpg. Weight per 100 (Lbs.)	List Price per 100
121001	1216-B	3AG & 8AG Fuses (1/4″ dia.)	29/64	5/16	1/4	.21	1	1	$5.00
123001	1217-B	4AG & 4AB Fuses (9/32″ dia.)	9/16	13/32	9/32	.36	1.6	1	12.00
125001	1218-B	High Voltage Aircraft, 5AG, 5AB & Midget Fuses (13/32″ dia.)	3/4	7/16	13/32	.67	3	2	16.00
127001	1219	Littelfuse Non-Renewable Hi-Amp. Fuse and N.E.C. 0-30 Amp. 250 Volt Fuse (9/16″ dia.)	13/16	19/32	9/16	1.18	5.5	2	21.00
129001	1221	Standard High Voltage Fuses (13/16″ dia.)	1 1/32	.750 ± .008	13/16	3.20	14.5	4	26.00

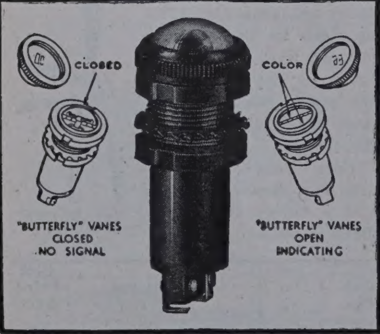
Tensioned for Diameter of Fuse when mounted....... Variations of these Clips can be made to specifications.

LITTELFUSE PHOSPHOR BRONZE FUSE CLIPS
Nickel Plating Standard Finish (Standard Package: 100)

Cat. No.	Old Cat. No.	USE FOR	Height	Width	Fuse Dia.	Weight per 100 (Lbs.)	Weight Each GMS.	Shpg. Weight per 100 (Lbs.)	List Price per 100
101001	1011-B	3AG & 8AG Fuses (1/4″ Dia.)	29/64	5/16	1/4	.23	1	1	$2.00
103001	1319	4AG and 4AB Fuses (9/32″ Dia.)	9/16	13/32	9/32	.38	1.7	1	5.00
105001	2049	High Voltage Aircraft, 5AG, 5AB & Midget Fuses (13/32″ dia.)	3/4	7/16	13/32	.70	3.2	2	6.00
107001	5048	Littelfuse Non-Renewable Hi-Amp. Fuse and N.E.C. 0-30 Amp. 250 Volt Fuse (9/16″ Dia.)	13/16	19/32	9/16	1.25	5.8	2	6.00
109001	1463	Standard High Voltage Fuses (13/16″ Dia.)	1 1/32	.750 ± .008	13/16	3.45	15.6	4	10.00

Tensioned for Diameter of Fuse when mounted. Variations of these clips can be made to specifications.
Silver Plated Phosphor Bronze Fuse Clips may be had on special order at slightly higher prices.

LITTELFUSE
SIGNALETTE (6, 12 or 28 Volts D.C.)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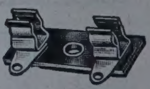

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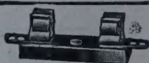

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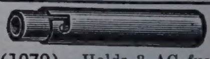

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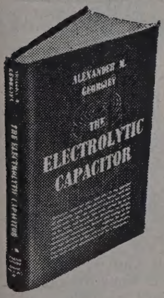

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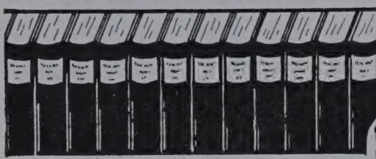

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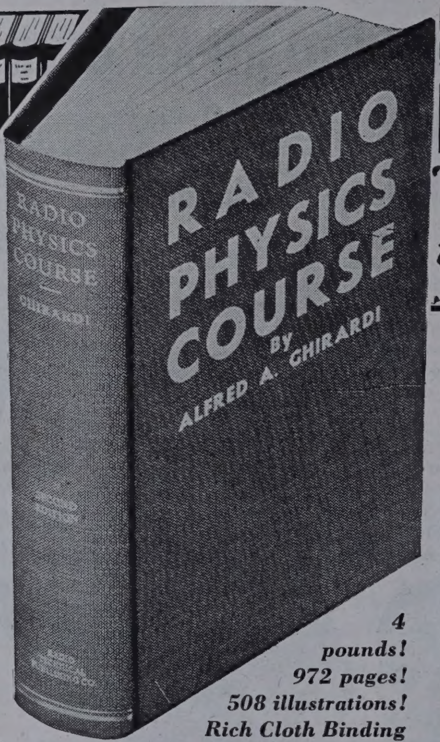

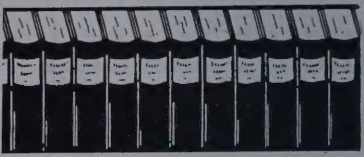

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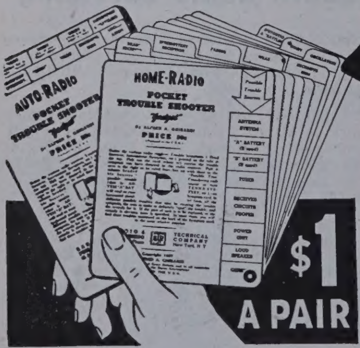
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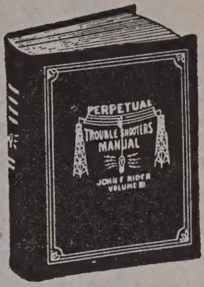

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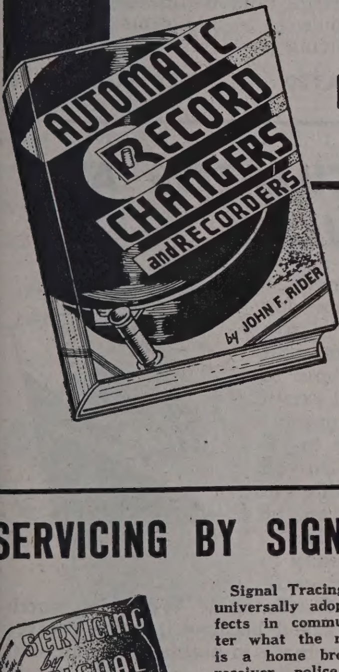

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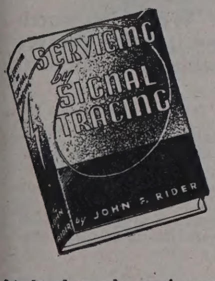

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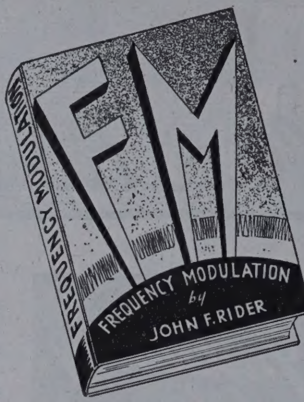

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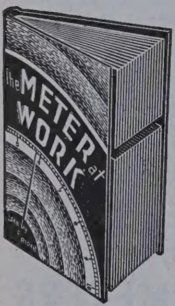

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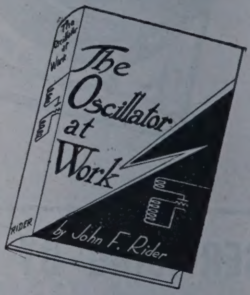

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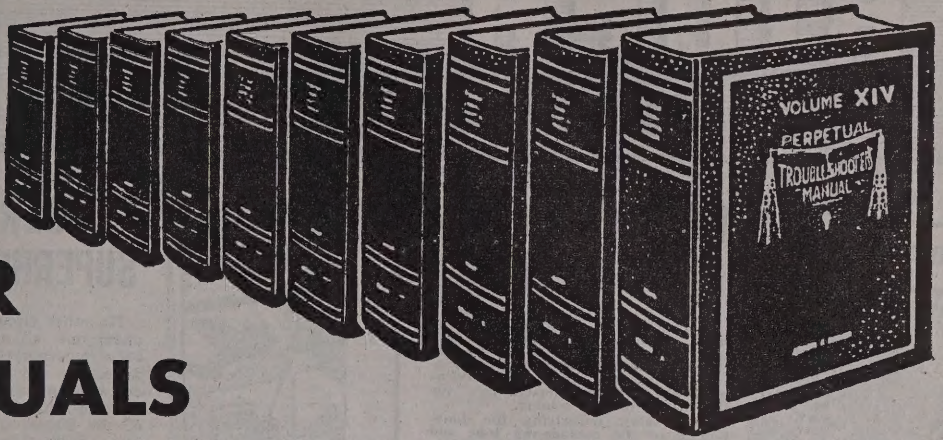

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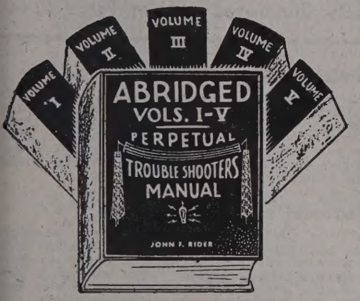

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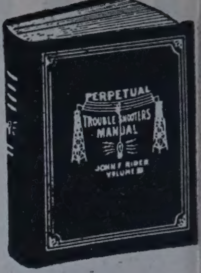

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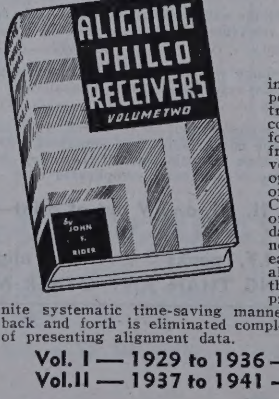

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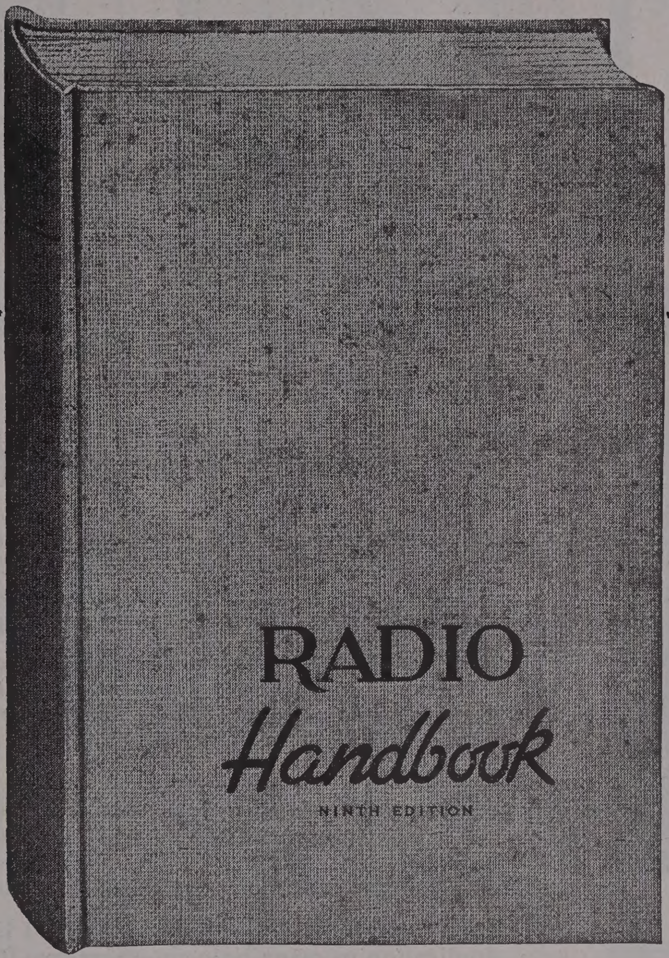

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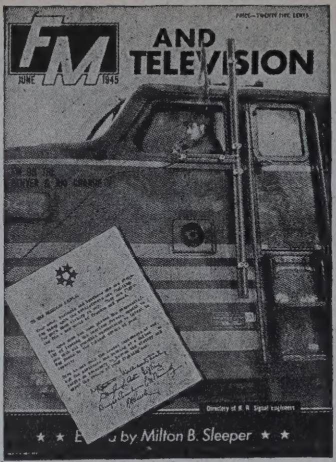
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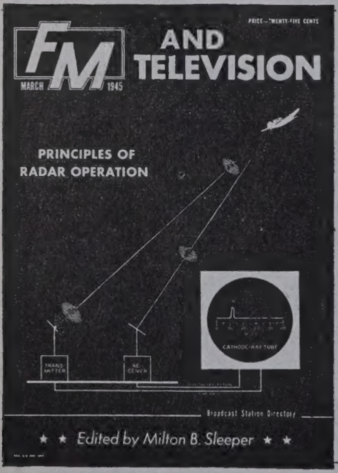
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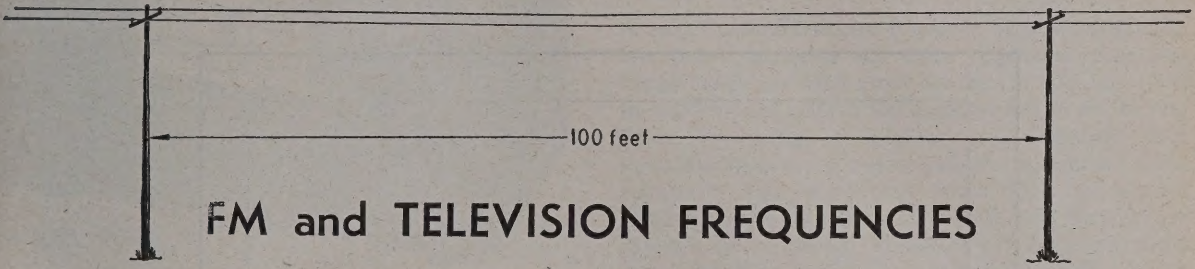

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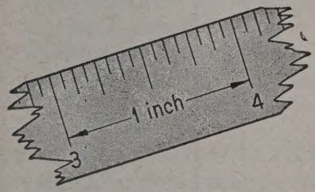

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If the distance of 100 ft. represents the new frequencies, then 1 in. represents the old band of AM frequencies from .01 to 25 mc. which, before Pearl Harbor, accommodated all the broadcast and communications services. This comparison indicates the expansion upon which the radio industry is launched now that World Victory is an accomplished fact.

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FM & TELEVISION = 100 FEET: All the new services, representing 95% of the post war radio market, will be in the FM and television band, represented above by 100 feet. In other words, the spectrum from 25 mc. to 30,000 mc., which the FCC has now made available for post war radio expansion, is *one thousand two hundred times as wide* as that used for AM radio before the war. . . . If you picture the already-crowded AM band as 1 inch wide, as compared to 1200 inches for the band now available for FM broadcasting and communications, and television, then you'll see the true proportions of the market to which *FM* AND TELEVISION Magazine is devoted.

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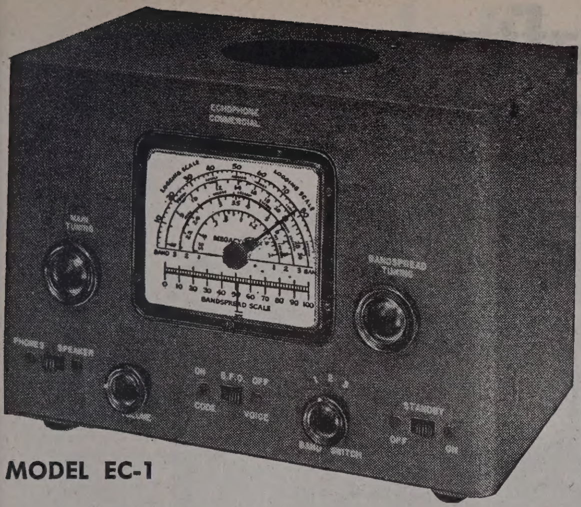

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- AC/DC operation-115/125 volts.
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- Bandspread logging scale.
- Complete isolation for headphones.
- Self-contained speaker.

PHYSICAL CONSTRUCTION: The receiver is housed in a metal cabinet finished in gray wrinkle. The dynamic speaker is mounted in the top of the cabinet and covered by a metal grill.

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"The Ears of the World"

A real Communications Receiver at a sensationally low price, including all these important features: Three bands covering from 550 k.c. to 30.5 m.c. (550 to 9.85 meters); Electrical bandspread on all bands; Beat Frequency Oscillator; Self-contained PM Dynamic speaker; 6 tubes; AC/DC operation; Good selectivity and exceptional sensitivity; Bandspread logging scale; Complete isolation for headphones through phone circuit transformer; Dial calibrated in megacycles with all important service bands indicated.

Every necessary feature is incorporated in the EC-1 to give the amateur and the short wave listener an up to the minute communications receiver.

CONTROLS: Main tuning, Bandspread, Bandswitch, AF gain, Standby switch, Speaker-Headphone switch, Combined BFO-AVC on-off switch. Rear Chassis edge: Phone tip jacks-Doublet Antenna terminals.

DIMENSIONS and WEIGHT: 7½″ high, 10⅞″ wide, 7⅝″ deep. Weight: Packed for shipment, 12 pounds.

ECHOPHONE
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The demand for a high-quality portable broadcast receiver has resulted in the development of the Echophone Model EC-6. Every feature for superb performance under the difficult conditions encountered in portable operation has been incorporated in this receiver, assuring home receiver results in the field.

Operating from self-contained batteries or power line, dual output stages assure full volume combined with real battery economy.

• • • **FEATURES** • • •

- Three bands, 550 k.c. to 1600 k.c., 2.8 M.c. to 7.8 M.c., 7 M.c. to 19 M.c.
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- Separate bandspread dial.
- Operation from either 115 volts AC or DC or self-contained batteries.
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- Built-in PM speaker with treated cone.
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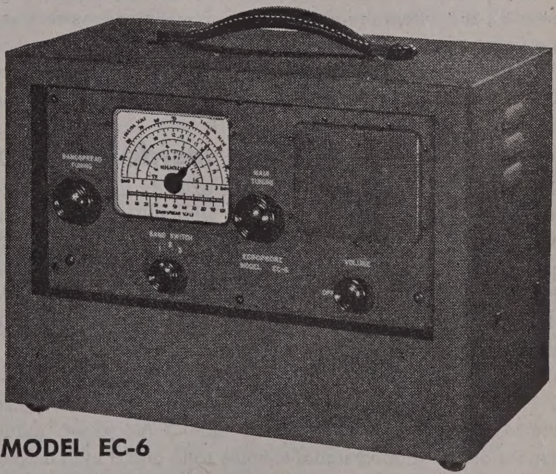

MODEL EC-6

CONTROLS: Bandspread tuning, Main tuning, Band switch, Volume—On/Off.

PHYSICAL CONSTRUCTION: The Model EC-6 is housed in a heavy gauge steel cabinet finished in gray wrinkle. A recessed panel is used for the protection of the controls and dial. The antenna is carried on a recessed reel on the rear of the cabinet. A leather carrying handle is provided and the cabinet is mounted on rubber feet.

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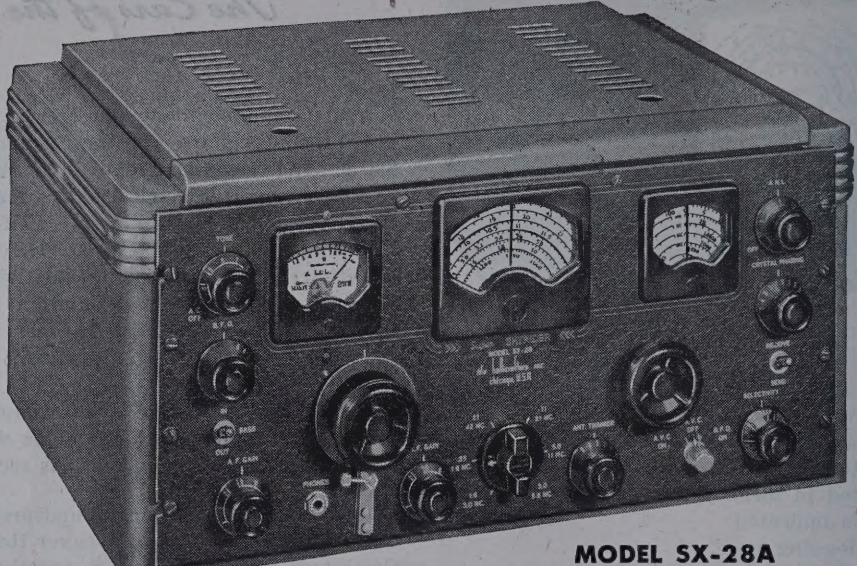


MODEL SX-28A

The standard of comparison

This new Hallicrafters Model SX-28A is a further refinement of the famous SX-28 that achieved such popularity with amateur and professional operators prior to Pearl Harbor. Embodying modifications necessitated by military service, the new SX-28A offers the maximum in communications receiver performance to the discriminating buyer.

The traditional sensitivity and selectivity of the SX-28 have been further improved in this new Super Sky-Rider by the use of "micro-set" permeability-tuned inductances in the r.f. section. The inductances, trimmer capacitors and associated components for each r.f. stage are mounted on small individual sub-chassis and may be removed for easy servicing. Thousands of these fine receivers have seen service with the armed forces in all parts of the world and have maintained and enhanced Hallicrafters reputation for outstanding quality and performance under the most difficult conditions.

The inside story of the famous SX-28A

The frequency range of the SX-28A extends from 550 kc. to 42 Mc. and is covered in six bands with suitable overlap at the band ends. In addition to the main tuning dial which is accurately calibrated in megacycles, there is a calibrated bandspread dial covering the frequency ranges of 3.5 to 4.0 Mc., 7 to 7.3 Mc., 14 to 14.4 Mc., and 28 to 30 Mc. Both dials are provided with flywheel inertia tuning.

One stage of r.f. amplification is used on frequencies below 3 Mc. and two stages on the higher frequency bands. These pre-selector stages using the new high-Q "micro-set" inductances assure a good signal-to-noise ratio and a high degree of selectivity. The Model SX-28A has an image ratio of 40 to 1 at 30 Mc., 350 to 1 at 14 Mc., and a proportionately increasing ratio as the frequency is decreased.

The three stage i.f. amplifier is designed to retain its adjustment under conditions of extreme change in temperature and humidity. The i.f. transformers are permeability tuned and are provided with small extra windings which can be connected to increase the coupling between circuits. These windings are used in conjunction with the crystal filter to furnish six different degrees of selectivity. Control is by means of a six-position panel switch. Any desired i.f. selectivity from wide-band high fidelity to razor-sharp c.w. reception is instantly available. In the medium and broad crystal positions the i.f. circuits function as a band-pass filter rather than as the more common broadly peaked resonant circuit and provide fully intelligible reception of radio telephone signals while holding interference and atmospherics to a minimum.

The SX-28A incorporates a double a.v.c. system. A.v.c. voltage for the r.f. and mixer tubes is taken from the broadly tuned carrier after it has passed through only three tuned i.f. circuits. A.v.c. for the i.f. stages, however, is taken from the carrier after it has passed through six tuned i.f. circuits. This arrangement provides a reduction in between-station noise and a more sharply defined aural tuning action. The "S" or signal intensity meter operates in conjunction with the a.v.c. and is calibrated in "S" units of approximately six db. each and in decibels above S9. A three position panel switch is provided for the control of a.v.c., "S" meter and b.f.o. circuits.

Other features which contribute to the fine performance of the SX-28A are a three stage Lamb type noise limiter with panel adjustment; push-pull 6V6GT output stage with band-pass filter, bass boost, and tone control; antenna compensator; separate a.f. and r.f. volume controls; and panel stand-by switch with break-in control for transmitter. All controls and switches are conveniently arranged.

FEATURES

1. Frequency range 550 kc. to 42 Mc. continuous in 6 bands.
2. Main tuning dial accurately calibrated in megacycles.
3. Separate calibrated bandspread dial.

(SX-28A continued)

4. Two stages of radio frequency amplification.
5. Beat frequency oscillator, pitch variable from front panel.
6. Combination a.v.c.-b.f.o. switch.
7. Send-receive switch.
8. Lamb type 3 stage adjustable noise limiter.
9. Separate r.f. and a.f. gain controls.
10. Provision for battery or external power supply operation.
11. Push-pull 8 watt output stage.
12. Variable tone control, band pass audio filter and bass boost switch.
13. Provision for break-in operation.
14. 500 or 5000 ohm output.
15. Six position i.f. and crystal filter selectivity switch.
16. Crystal phasing control.
17. "S" meter calibrated in "S" units and db. above S9.
18. Oscillator compensated for frequency drift.
19. Antenna compensator mounted on panel.
20. Separate a.v.c. amplifier.
21. "Unit-style" r.f. sections for easy servicing.
22. "Micro-set" type coils in r.f. section, permeability tuned.
23. Dial lock on main tuning dial.
24. Inertia flywheel tuning and pre-loaded gear drive on main and bandspread dials.
25. Phonograph input jack.

CONTROLS

Tone and A.c. on/off; B.f.o. (pitch control); Bass in/out; A.f. gain; Main tuning; R.f. gain; Band switch; Ant. trimmer; Bandspread tuning; A.v.c. and B.f.o. on/off; Selectivity; Send/receive; Crystal phasing; A.n.l.; "S" meter adjustment on rear of chassis.

FIFTEEN TUBES

1—6AB7 1st r.f. Amplifier; 1—6SK7 2nd r.f. Amplifier; 1—6SA7 Mixer; 1—6SA7 h.f. Oscillator; 1—6L7 1st i.f. Amplifier Noise Limiter; 1—6SK7 2nd i.f. Amplifier; 1—6B8 a.v.c. Amplifier; 1—6B8 2nd Detector and "S" meter tube; 1—6AB7 Noise Amplifier; 1—6H6 Noise Rectifier; 1—6J5 Beat Oscillator; 1—6SC7 1st Audio Amplifier; 2—6V6GT Push-Pull Output Amplifiers; 1—5Z3 Rectifier.

EXTERNAL CONNECTIONS

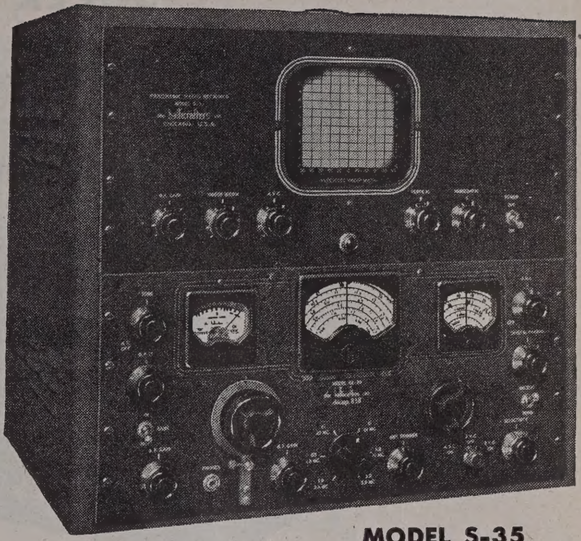
Antenna-ground terminals arranged for single wire or doublet; speaker terminals for either 500 or 5000 ohm output; line cord and plug; line fuse; special socket, normally shorted by octal plug, provides for battery or external power supply operation and stand-by connections to transmitter; phonograph input jack. All connections are mounted on rear of chassis except headphone jack on panel.

PHYSICAL CHARACTERISTICS

All components of the Super-Skyrider Model SX-28A are mounted on a rugged steel chassis. Copper plated steel panel has etched black leatherette finish. Panel and chassis are joined by heavy side members. Cabinet is finished in gray wrinkle lacquer with chromium trim. Openings provided for cooling and ventilation.

DIMENSIONS AND WEIGHT

Cabinet is 20½" long by 10" high by 14¾" deep. Panel is 19" long by 8¾" high. Clearance needed for relay rack mounting, 17⅜" long by 8¾" high by 14¾" deep. Model SX-28A—75 pounds. Packed for shipment—87 pounds.



MODEL S-35

PANORAMIC RECEIVER

The Hallicrafters PANORAMIC RECEIVER, Model S-35, is one of the newest and most interesting applications of the cathode-ray tube. This equipment, a special adapter mounted complete with an SX-28A receiver, makes possible the visual monitoring of whole sections of the frequency spectrum up to 100 k.c. in width. All stations on the air in the portion of the spectrum being monitored are visible on the screen of the S-35. The station which is audible in the speaker or headphones always appears in the center of the oscilloscope screen while stations that are higher or lower in frequency are properly spaced on either side. As the receiver is tuned the entire picture shifts across the screen. Signals appear as upward deflections in the cathode-ray base line and indicate relative amplitude, character of modulation, etc., to the experienced operator.

The panoramic adapter unit consists of a chassis and panel of approximately the same dimensions as the SX-28A on which are mounted the necessary power supplies, intermediate frequency and video frequency amplifiers, saw-tooth oscillator, reactance modulator, and cathode-ray tube. Only one electrical connection is made between the adapter and the SX-28A and it does not interfere in any way with the normal operation of the receiver.

FOURTEEN TUBES

1—6SG7 455 k.c. Input Amplifier; 1—6SA7 1st Detector; 1—6SK7 100 k.c. i.f. Amplifier; 1—6SQ7 2nd Detector and Vertical Amplifier; 1—6SN7GT Sawtooth Oscillator; 1—6SJ7 Return Trace Blanking Tube; 1—6AC7 Reactance Modulator; 1—6J5 r.f. Oscillator; 1—6SC7 Horizontal Amplifier; 1—2X2/879 High Voltage Rectifier; 1—80 Low Voltage Rectifier; 1—VR105 Voltage Regulator; 1—VR150 Voltage Regulator; 1—5AP1 Cathode-ray Tube.

DIMENSIONS AND WEIGHT

Cabinet only—20½" wide by 18⅝" high by 18" deep. Packed for shipment—180 pounds.

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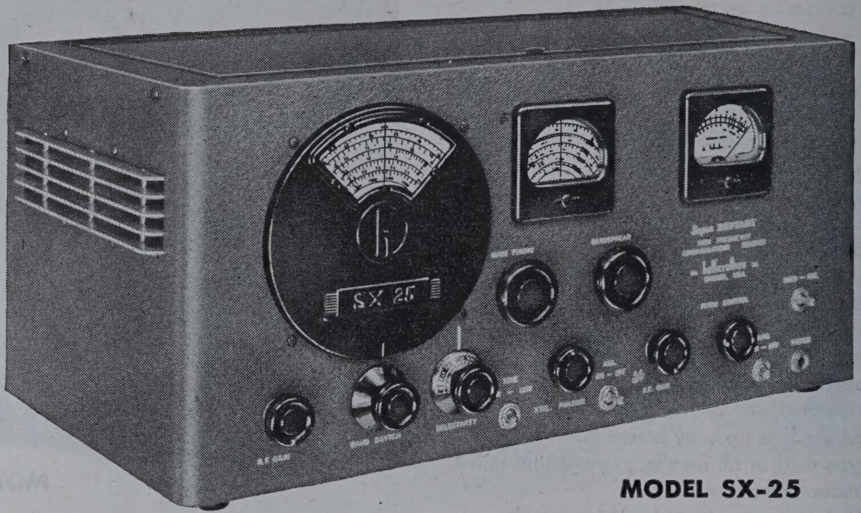
SUPER DEFIANT



MODEL SX-25

Every worthwhile feature at a moderate price

The Super Defiant has long been one of Hallicrafters most popular models. Incorporating every important feature for superb broadcast and short wave receiver performance, the Model SX-25 has achieved true economy without compromising quality.

The outbreak of war with its sudden demand for military communications receivers found Hallicrafters already in mass production of the Model SX-25 for amateur use. Production was immediately stepped up and tremendous quantities of these receivers were put into military communications work. Many minor modifications and improvements in quality of components to meet rigid military requirements were made but the basic design remains unchanged. The rugged construction, fine workmanship, and superb performance which proved so valuable in military service will continue to feature the Hallicrafters Model SX-25.

FEATURES

1. Frequency range 545 kc. to 42 Mc., continuous in 4 bands.
2. Main tuning dial accurately calibrated in megacycles.
3. Separate calibrated bandspread dial.
4. Two stages of radio frequency amplification.
5. Beat frequency oscillator, pitch variable from front panel.
6. A.v.c. switch.
7. B.f.o. switch.
8. Send-receive switch.
9. Automatic noise limiter.
10. Separate r.f. and a.f. gain controls.
11. Provision for battery or external power supply operation.
12. Push-pull 8 watt output stage.
13. High-low tone switch.
14. Provision for break-in operation.
15. 500 or 5000 ohm output.
16. Six position i.f. and crystal selectivity switch.
17. Crystal phasing control.
18. "S" meter calibrated in "S" units and db. above S9.
19. Oscillator compensated for frequency drift.
20. Inertia flywheel tuning on bandspread dial.

CONTROLS

R. f. gain; Band switch; Selectivity; Main tuning; Tone high-low; Xtal phasing; Bandspread; A.n.l. on/off; A.f. gain; Pitch control; B.f.o. on/off; Send-receive; "S" meter adjustment on rear of chassis.

TWELVE TUBES

1—6SK7 1st r.f. Amplifier; 1—6SK7 2nd r.f. Amplifier; 1—6K8 1st Detector-Mixer h.f. Oscillator; 1—6SK7 1st i.f. Amplifier; 1—6SK7 2nd i.f. Amplifier; 1—6SQ7 2nd Detector, a.v.c. 1st Audio Amplifier; 1—6SQ7 Phase Inverter; 2—6F6 Push-pull Audio Output Stage; 1—6H6 Automatic Noise Limiter; 1—6J5GT Beat Frequency Oscillator; 1—80 Rectifier.

EXTERNAL CONNECTIONS

Antenna terminals arranged for doublet or single wire antenna. Speaker output for either 500 or 5000 ohms. Standby terminals for external control of receiver in conjunction with transmitter. Line cord and plug. Special socket, normally shorted by octal plug, for use of external power supply or batteries. All connections are mounted on rear of chassis except headphone jack on panel.

PHYSICAL CHARACTERISTICS

The SUPER-DEFIANT, Model SX-25 is mounted in a steel cabinet finished in gray wrinkle lacquer. Ornamental metal grills in either end provide ventilation. Chassis is cadmium plated steel.

DIMENSIONS AND WEIGHT

Receiver cabinet only—19½" long by 9½" high by 11⅛" deep. Model SX-25—38 pounds. Packed for shipment—46 pounds.

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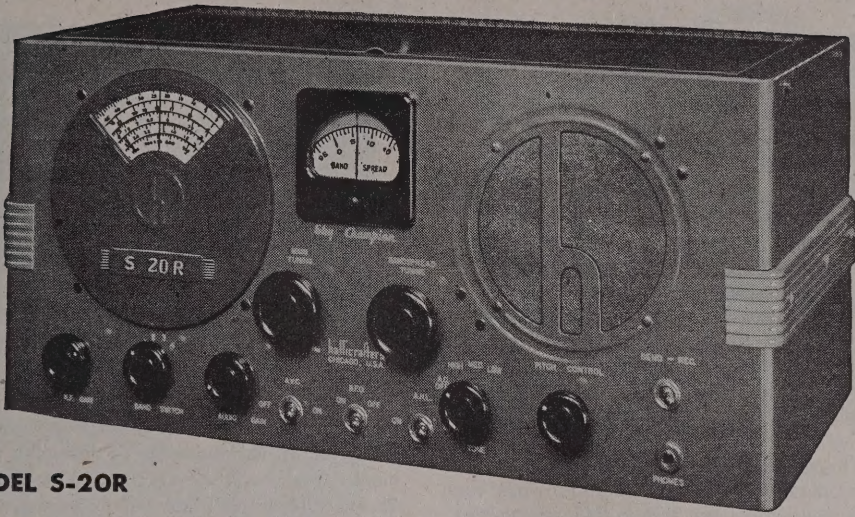
SKY CHAMPION



MODEL S-20R

Top performance in the low cost field

Where economy, combined with top performance is desired, the Sky Champion is the logical answer. Skillful engineering has enabled excellent reception on both broadcast and short waves to be incorporated. The Model S-20R is probably the greatest value ever offered in communications receivers. Its simplicity of design, and excellent workmanship insure long, satisfactory service and make traditional Hallicrafters performance available to the purchaser of an economical receiver. In common with its larger brothers the Model S-20R has a distinguished war record, and like them, it has been strengthened and improved to cope with military requirements. Large quantities have been produced for the armed forces and have been used for training and communications purposes where performance was important but the use of a complicated receiver was not justified. It is a reliable receiver offering top performance in the low priced field.

FEATURES

(1) Frequency range 550 kc. to 43 Mc. continuous in four bands, (2) Main tuning dial accurately calibrated in megacycles, (3) Separate electrical bandspread dial, (4) Beat frequency oscillator, pitch variable from front panel, (5) A.v.c. switch, (6) B.f.o. switch, (7) Send-receive switch, (8) Automatic noise limiter, (9) Separate r.f. and a.f. gain controls, (10) Provision for battery or external power supply operation, (11) 2½ watt output stage, (12) Three position tone control, (13) Provision for break-in operation, (14) Provision for external "S" meter, (15) Inertia flywheel tuning on bandspread dial, (16) Internal rubber shock mounted 5" dynamic speaker.

NINE TUBES

1—6SK7 r.f. Amplifier; 1—6K8 1st Detector-Mixer, h.f. Oscillator; 1—6SK7 1st i.f. Amplifier; 1—6SK7 2nd i.f. Amplifier; 1—6SQ7 2nd Detector, a.v.c. and 1st Audio Amplifier; 1—6F6G 2nd Audio Amplifier; 1—6H6 Automatic Noise Limiter; 1—6J5GT Beat Frequency Oscillator; 1—80 Rectifier.

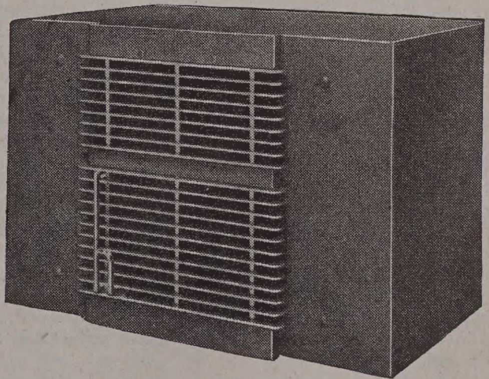
CONTROLS

R.f. gain; Band switch; Audio gain; Main tuning; A.v.c. on/off; B.f.o. on/off; Bandspread tuning; A.n.l. on/off; Tone a.c. off/high/med./low; Pitch control; Send-receive.

DIMENSIONS AND WEIGHT

Cabinet only—18½" long by 8½" high by 9⅜" deep. Model S-20R—26 pounds. Packed for shipment—32 pounds.

MODEL PM-23 SPEAKER



This Hallicrafters-Jensen speaker is designed for use with the larger Hallicrafters receivers. Of the permanent magnet type the Model PM-23 has a ten-inch cone and is mounted with its coupling transformer in a steel cabinet finished in gray wrinkle lacquer to match the receiver. Speaker opening is concealed by an attractive metal grill. Transformer matches 5000 ohm output of receiver.

DIMENSIONS AND WEIGHT

16¼" long by 11½" high by 11" deep. Weight—packed for shipment—22 pounds.

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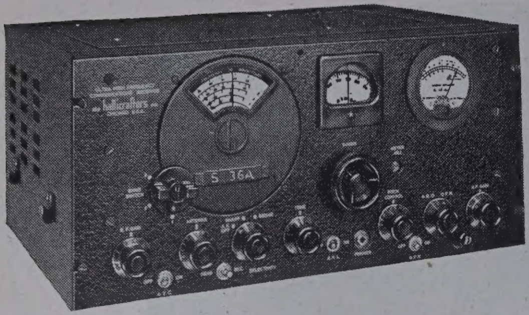
VERY HIGH FREQUENCY RECEIVERS



MODEL S-36A
FM-AM-CW

The new Hallicrafters AM/FM receiver, Model S-36A, is designed for maximum performance on the very-high-frequencies. Using acorn tubes in the r.f. amplifier, first detector, and high frequency oscillator circuits, the S-36A provides continuous frequency coverage from 27.8 to 143 megacycles. Either a limiter and discriminator for FM or a third i.f. amplifier, diode detector and noise limiter for AM may be switched into the circuit from the front panel. A beat frequency oscillator is provided for the reception of c.w. telegraph signals. The S-36A incorporates a new three watt audio system with a response curve which is essentially flat from 40 to 15,000 cycles. The entire receiver is designed for use in any climate. Combining FM, AM, and CW telegraph reception in one superbly engineered unit, the S-36A provides the utmost in very-high-frequency reception.

FEATURES

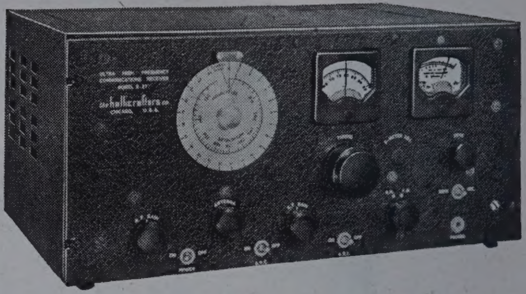
(1) Frequency range 27.8 Mc. to 143 Mc. continuous in three bands. (2) Main tuning dial accurately calibrated in megacycles. (3) Mechanical bandspread dial. (4) R.f. stage with acorn tube. (5) Beat frequency oscillator, pitch variable from panel. (6) A.v.c. switch. (7) B.f.o. switch. (8) Send-receive switch. (9) Automatic noise limiter. (10) Separate r.f. and a.f. gain controls. (11) Push-pull high fidelity output stage. (12) Four position tone control with bass boost. (13) Provision for break-in operation. (14) 500 or 5000 ohm output plus special balanced 600 ohm line. (15) Sharp-broad selectivity switch. (16) Dual purpose "S" and tuning meter. (17) Oscillator compensated for frequency drift. (18) Antenna compensator mounted on panel. (19) R.f. assembly easily removed for servicing. (20) Inertia flywheel tuning. (21) Hermetically sealed transformers and reactors. (22) All paper condensers oil impregnated. (23) Moisture proofed wiring. (24) FM/AM switch. (25) Switch on chassis permits operation on 115 or 230 volts a.c. (26) Line fuse on panel. (27) Improved gear drive in dust proof housing. (28) "S" meter adjustable from front panel.

FIFTEEN TUBES

1—956 (Acorn) Radio Frequency Amplifier; 1—954 (Acorn) Converter-Mixer; 1—6AC7 1st i.f. Amplifier; 1—6AB7 2nd i.f. Amplifier; 1—6SK7 3rd i.f. Amplifier; 1—6H6 a.m. Detector and Automatic Noise Limiter; 1—6AC7 f.m. Limiter; 1—6H6 f.m. Discriminator; 1—6SL7GT Audio Amplifier; 1—VR150 Voltage Regulator; 2—6V6GT Power Audio Amplifier; 1—5U4G Rectifier; 1—6J5 Beat Frequency Oscillator; 1—955 (Acorn) High Frequency Oscillator.

DIMENSIONS AND WEIGHT

Model S-36A—19¼" wide by 9½" high by 15¾" deep. Model S-36A with military type shock mounting—21½" wide by 11¼" high by 15¾" deep. Actual weight 83 pounds. Packed for shipment, 95 pounds.



MODEL S-37
FM-AM

The first radio manufacturer to offer a receiver covering both FM and AM at very high frequencies, Hallicrafters has again shown its leadership in designing this superb instrument to operate in the range of 130 to 210 M.c.

The new Model S-37 has been designed to fill the need for very-high-frequency equipment with the performance characteristics of Hallicrafters top communications receivers, and a frequency range extending above 200 Mc. Basically similar to the Model S-36A this new receiver incorporates the latest developments in v.h.f. circuit design and provides sensitivity and selectivity in the range from 130 to 210 Mc. that is in every way comparable to the performance of fine communications receivers on the standard frequencies.

A new pre-loaded gear drive with separate bandspread dial provides ease of tuning, and the entire range of the receiver is covered without band-switching. Two r.f. stages are used and in conjunction with an intermediate frequency of 18 Mc., assure an amazingly high ratio of image rejection. Hermetically sealed transformers and capacitors make the Model S-37 suitable for use in any climate.

FEATURES

(1) Frequency range continuous from 130 Mc. to 210 Mc. (2) Main tuning dial accurately calibrated in megacycles. (3) Mechanical bandspread dial. (4) Two r.f. stages with acorn tubes. (5) A.v.c. switch. (6) Send-receive switch. (7) Automatic noise limiter. (8) Separate r.f. and a.f. gain controls. (9) Variable tone control. (10) Provision for break-in operation. (11) 500 or 5000 ohm output. (12) Dual purpose "S" and tuning meter. (13) Oscillator compensated for frequency drift. (14) Antenna compensator mounted on panel. (15) R.f. assembly easily removed for servicing. (16) Inertia flywheel tuning. (17) Hermetically sealed transformers and reactors. (18) All paper condensers oil impregnated and hermetically sealed. (19) Moisture proof wiring. (20) FM/AM switch. (21) Provision for operation on 115 or 230 volts a.c. (22) Line fuse on rear of chassis. (23) Improved gear drive in dust proof housing. (24) "S" meter adjustable from front of panel. (25) 18 Mc. i.f. for maximum image rejection.

FOURTEEN TUBES

2—954 (Acorn) Radio Frequency Amplifiers; 1—954 (Acorn) Converter-Mixer; 1—6AC7 1st i.f. Amplifier; 1—6AB7 2nd i.f. Amplifier; 1—6SK7 3rd i.f. Amplifier; 1—6H6 a.m. Detector and Automatic Noise Limiter; 1—6AC7 f.m. Limiter; 1—6H6 f.m. Discriminator; 1—6SC7 Audio Amplifier; 1—VR150 Voltage Regulator; 1—6V6GT Power Audio Amplifier; 1—5U4G Rectifier; 1—955 (Acorn) High Frequency Oscillator.

DIMENSIONS AND WEIGHT

Model S-37—19¼" wide by 9½" high by 14¾" deep. Actual weight, 83 pounds. Packed for shipment—95 pounds.

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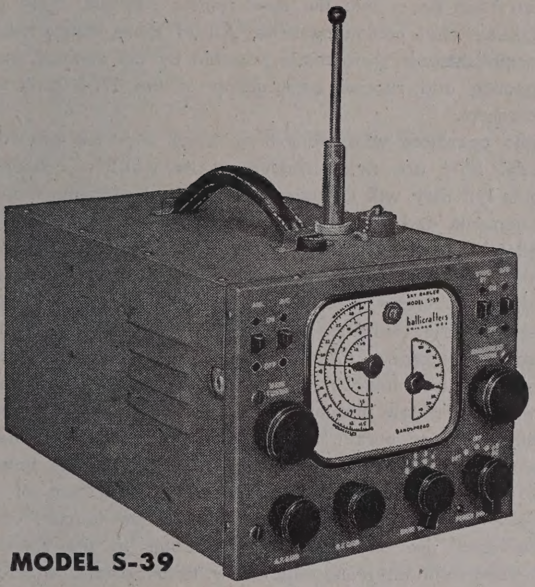
PORTABLES



MODEL S-39

SKY RANGER

The new Sky Ranger is a 9-tube communications receiver which combines the utmost in convenience with a high order of performance.

Incorporating electrical bandspread, b.f.o. for c.w. reception, automatic noise limiter, and the standard controls found on good communications receivers, the light weight, high sensitivity, and collapsible built-in antenna of the Sky Ranger make it an ideal portable receiver. It may be operated on either 115 volts a.c. or d.c. or on its own self contained batteries. Frequency coverage is continuous from 540 kc. to 30.5 Mc. in 4 bands.

FEATURES

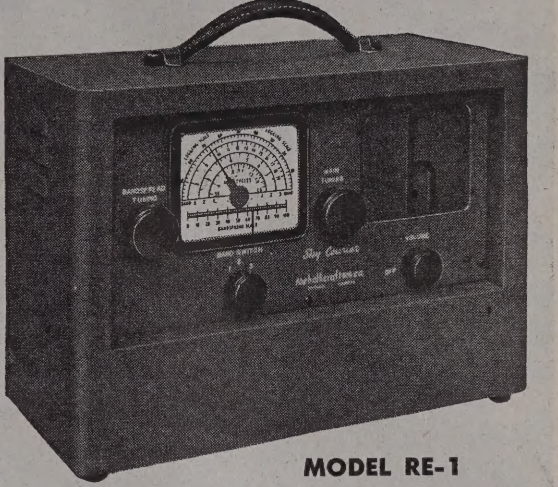
(1) Operates from its own self-contained batteries or 115 volts a.c. or d.c. (2) Frequency range 540 kc. to 30.5 Mc. continuous in four bands. (3) Main tuning dial accurately calibrated in megacycles. (4) Separate bandspread dial. (5) R.f. stage used on all bands. (6) Beat frequency oscillator. (7) A.v.c. switch. (8) B.f.o. switch. (9) Send-receive switch. (10) Automatic noise limiter. (11) Separate r.f. and a.f. gain controls. (12) Collapsible built-in antenna. (13) Moisture-proof wiring. (14) Components impregnated for use in tropical climates. (15) Neon on/off indicator to prevent waste of batteries. (16) Permeability tuned r.f. and i.f. stages. (17) Plug-in type filter capacitors. (18) Completely rainproofed for outdoor use.

NINE TUBES

1—1T4 r.f. Amplifier; 1—1R5 Mixer; 1—1P5GT 1st i.f. Amplifier; 1—1P5GT 2nd i.f. Amplifier; 1—1H5GT 2nd Detector, first Audio Amplifier and a.v.c.; 1—1H5GT Beat Frequency Oscillator, Automatic Noise Limiter; 1—3Q5GT 2nd Audio Amplifier; 2—35Z5GT Rectifiers.

DIMENSIONS AND WEIGHT

Cabinet alone 7¼" high by 8¾" wide by 13½" deep.
Overall—8½" high by 8¾" wide by 15¼" deep.
Model S-39—28 pounds with batteries. Ship. wt., 31 lbs.



MODEL RE-1

SKY COURIER

The Hallicrafters Sky Courier, Model RE-1, sets a new standard for portable broadcast receivers. Built to the same exacting specifications as Hallicrafters communications receivers, the RE-1 combines unusual sensitivity and selectivity on the standard and short wave broadcast bands with ruggedness, convenience, and portability. The Sky-Courier employs high-Q iron core inductances in all r.f. and i.f. circuits, operates from its own self-contained batteries or from 115 volts a.c. or d.c., and is mounted in a sturdy metal cabinet with recessed control panel affording maximum protection against accidental damage. The new Hallicrafters portable is truly an ideal receiver for those who demand the utmost in long distance performance.

FEATURES

(1) Operates from its own self contained batteries or 115 volts a.c. or d.c. (2) Frequency range 550 kc. to 1600 kc., 2.8 Mc. to 7.8 Mc., 7 Mc. to 19 Mc. (3) Main tuning dial accurately calibrated in megacycles. (4) Separate bandspread dial. (5) High-Q iron core inductances throughout assure maximum sensitivity. (6) Dual audio output stages, combining economy on battery operation and maximum output on power line operation. (7) Components impregnated for use in tropical climates. (8) Self contained 5" PM speaker, moisture resistant cone. (9) Recessed control panel for protection and convenience. (10) Antenna carried on reel on rear of cabinet. (11) Plug-in type filter capacitors. (12) Special socket for line cord provides automatic changeover from a.c./d.c. to battery operation.

SEVEN TUBES

1—1R5 Mixer; 1—1N5GT 1st i.f. Amplifier; 1—1N5GT 2nd i.f. Amplifier; 1—1H5GT 2nd Detector, a.v.c. and 1st Audio Amplifier; 1—50L6GT Audio Power Amplifier for a.c./d.c. operation; 1—3Q5GT Audio Power Amplifier for Battery Operation; 1—35Z5GT Rectifier for a.c./d.c. Operation.

DIMENSIONS AND WEIGHT

Cabinet: 10½" high by 15" wide by 8" deep.
Model RE-1: 30 pounds with batteries. Ship. wt., 34 lbs.

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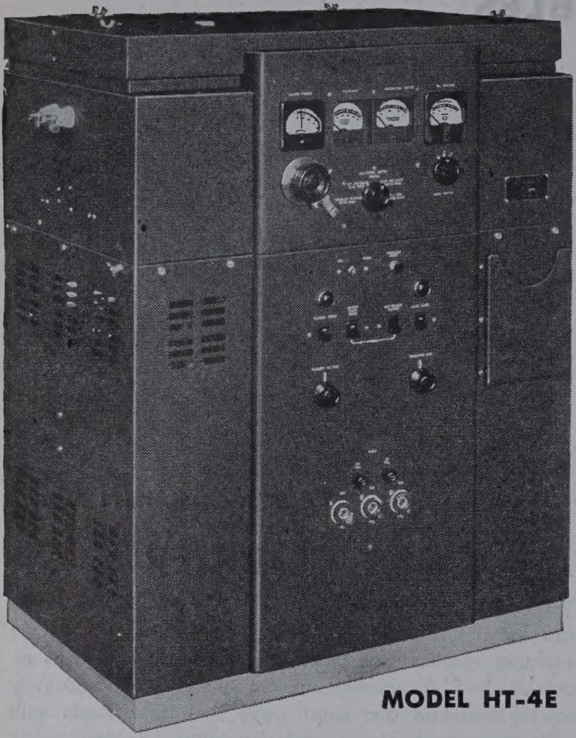


MODEL HT-4E

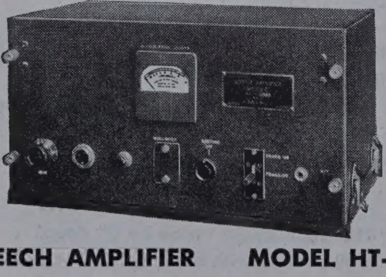
450 WATT TRANSMITTER

Hallicrafters' Model HT-4E transmitter has the most distinguished war record of any piece of radio communication equipment. First produced several years before Pearl Harbor and designed to meet the requirements of the most exacting amateur operators, the Model HT-4 was selected as the transmitter for the SCR-299 mobile radio station. This famous Signal Corps unit, built by Hallicrafters, has been acclaimed by high military authorities as "the best piece of radio equipment in any army."

The performance of this superb transmitter on every battle front and under the most adverse conditions has become one of the great legends of the war. Originally intended for use as a mobile unit over ranges of a few hundred miles, the SCR-299 so far surpassed expectations that it was soon operating in long distance service over thousands of miles. Commanding officers in the field diverted many of them to use as fixed headquarters stations. SCR-229's were set up as permanent broadcast transmitters in the far corners of the earth, and, dismounted from their trucks, they have been flown into the most remote outposts, there to establish vital communications. All of these outstanding accomplishments were made possible by the sterling performance and rugged construction of the HT-4 and its successors.

Radio operators who were acquainted with the pre-war Model HT-4 are not surprised at its wartime achievements but they will be more than pleased with the many refinements and conveniences now available in the new Model HT-4E. Like other Hallicrafters products, this transmitter has undergone a continuous series of modifications and improvements to cope with the hazards of war and most of these refinements will prove as valuable to the amateur operator as they have to the Signal Corps. Among these wartime changes are: adoption of vacuum padding capacitors for low frequency operation, re-design of exciter tuning units to permit v.f.o. as well as crystal-controlled operation, addition of guide channels to make the insertion of tuning units easy and positive, addition of a remote control relay to switch from phone to c.w. and vice-versa, use of a side-tone oscillator in the speech amplifier to permit monitoring of c.w. transmissions, addition of locking rings to hold tubes firmly in position, slight redesign of cabinet for greater rigidity and many others.

Refined and strengthened, battle tested under every conceivable hardship, and built by the thousands for service on every continent, the Hallicrafters HT-4E is ready for the re-opening of amateur radio.



SPEECH AMPLIFIER MODEL HT-5E

FEATURES

1. Coils available for frequency range 1.5 Mc. to 18 Mc.
2. Power output 450 watts c.w., 325 watts phone (continuous operation).
3. Oscillator and buffer stages may be pretuned for any three operating frequencies and selected by a panel switch.
4. High level class B modulation.
5. Plug-in pre-tuned r.f. exciter units.
6. Transmitter may be remotely controlled and keyed from speech amplifier.
7. Crystal or v.f.o. operation.
8. All operating controls on front panel.
9. Phone-c.w. operation controlled by single switch.
10. Break-in operation provided for.
11. Metering of all exciter stages and power amplifier grid current through meter switching.
12. All components plainly identified.
13. Voltage regulated oscillator power supply.
14. Optimum LC ratio on all bands due to plug-in vacuum padding condenser.
15. Heavy duty components used throughout.
16. Compact, unit style construction for maximum efficiency.
17. Filament voltage adjustment.
18. Modulator bias adjustment.
19. Filament power switch.
20. Exciter power switch.
21. Plate power switch.

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HT-4E (continued)

22. High voltage protect switch.
23. Overload reset button.
24. Phone-c.w. switch.
25. Four power supplies.
26. Dual overload relays in high voltage supply.
27. Phone-c.w. relay.
28. Plate power relay.
29. Filament voltmeter on power amplifier.
30. Power amplifier plate current meter.
31. All fuses on front panel.
32. Dial lock on power amplifier tuning.
33. Guides for easy insertion of r.f. exciter units.
34. Tuning chart pocket on panel.
35. Modulation limiter on speech amplifier.
36. Modulator plate meter in speech unit for monitoring.
37. Side-tone oscillator (keying monitor).

TWENTY THREE TUBES

1—6V6GT Crystal or v.f.o. Oscillator; 1—6L6 Intermediate Amplifier; 2—807 Buffer Amplifiers; 1-250th r.f. Power Amplifier; 3—VR-150 Voltage Regulators; 2—5Z3 Rectifiers; 2—100th Class B Modulators; 2—2A3 Class B Drivers; 2—866 High Voltage Rectifiers; 1—6SQ7 Microphone Amplifier; 1—6J5 Speech Amplifier; 1—6SN7GT Phase Inverter; 1—6SN7GT Push-pull Output; 1—6SR7 Modulation Limiter; 1—6SN7GT Sidetone Generator; 1—80 Speech Amplifier Power Supply Rectifier.

CONTROLS

Plate tuning; Excitation meter switch; Band switch; CW/Phone switch; Overload reset; Filament power; Exciter plate power; High voltage protect; Plate power; Filament voltage; Modulator bias. On speech amplifier: Gain; Mod. limiter; Sidetone on/off; Trans. on/off.

Note: three tuning units may be plugged into exciter unit at one time. Each unit has controls for oscillator, doubler, and intermediate amplifier. These are pre-tuned and the desired channel is selected by the bandswitch.

METERS

P. A. plate; Excitation meter; Filament voltage; Modulator plate meter (on speech amplifier).

EXTERNAL CONNECTIONS

A.c. plug and cord, antenna terminals, sockets for speech amplifier input and power; key and microphone inputs on speech amplifier panel.

PHYSICAL CHARACTERISTICS

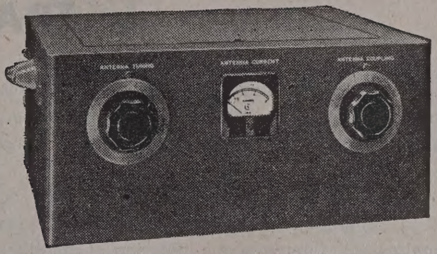
All components of the HT-4E are mounted on heavy steel chassis, finished in gray lacquer. Cabinet is of heavy gauge steel, finished in black wrinkle. Speech amplifier is in its own table model cabinet, finished in black wrinkle.

DIMENSIONS

Model HT-4E overall—32⅝" wide by 39⅞" high by 21⅜" deep.

WEIGHT

Model HT-4E—412 pounds. Packed for shipment—500 pounds.



MODEL AT-2

ANTENNA TUNING UNIT

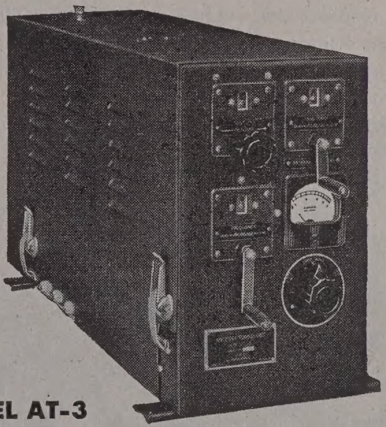
Designed for use with a two wire transmission line, this unit employs the well known pi-section network. Has heavy duty capacitors and ceramic insulated plug-in inductances and is equipped with an antenna change-over relay to permit the use of one antenna for transmitting and receiving.

DIMENSIONS

Model AT-2 overall: 22" wide by 9" high by 16½" deep.

WEIGHT

Model AT-2—35 pounds. Packed for shipment—39 pounds.



MODEL AT-3

ANTENNA TUNING UNIT

This unit which was used in recent versions of the SCR-299 represents an outstanding achievement in high-frequency design. Covering all frequencies between 1.5 and 18 Mc. without the use of plug-in inductances, the Model AT-3 will tune any single wire antenna from a fifteen foot whip to a long wire. This unit is ceramic insulated to withstand the high r.f. voltages which are generated when antennas are operated far below their fundamental frequencies and will prove invaluable to the operator who is compelled to use an antenna of inadequate size.

DIMENSIONS

Model AT-3 overall: 10¼" wide by 14¼" high by 24" deep.

WEIGHT

Model AT-3—48 pounds. Packed for shipment—56 pounds.

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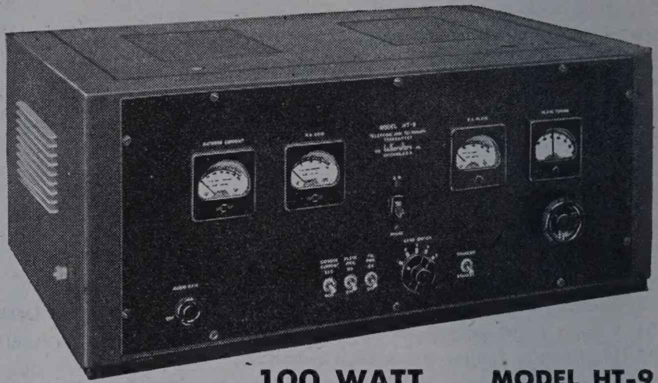
TRANSMITTERS

Designed for maximum flexibility, the Model HT-9 is an ideal self-contained medium-powered transmitter, requiring only a microphone or key, antenna, and 115 A.C. source of power.

Exciter coils and crystals for five bands can be plugged in, pretuned, and selected at will by means of a panel switch. Simultaneous metering of amplifier grid and plate circuits is provided, as well as a meter that may be switched into either the exciter or modulator cathode. All controls are conveniently arranged on the panel. A safety interlock switch is provided for protection against accidental shock.



100 WATT MODEL HT-9

FEATURES

1. Frequency range 1.5 to 18 Mc. and amateur 28 Mc. band.
2. Power output 100 watts on c.w., 75 watts on phone.
3. Five operating frequencies may be pre-set in the oscillator and buffer-doubler stages and selected at will.
4. 100 percent modulation with low distortion.
5. All operating controls on front panel.
6. Metering of cathode current of exciter or modulator, power amplifier grid, and power amplifier plate.
7. Input for medium level, high impedance microphone.
8. Carrier hum more than 40 db. below 100% modulation.
9. Audio response flat within 3 db. from 100 to 5000 cycles.
10. Antenna coil for resistive load from 10 to 600 ohms.
11. Line fuses mounted on rear of chassis.
12. Convenient table mounting.
13. Rugged construction and oversize components assure dependable operation.

FOURTEEN TUBES

1—6L6 Crystal Oscillator (used above 8 Mc. only); 1—6L6 Crystal Oscillator or doubler; 1—814 Final r.f. Amplifier; 1—6SJ7 1st Speech Amplifier; 1—6J5 2nd Speech Amplifier; 4—6L6 Push-pull Parallel Modulator Stage; 2—5Z3 Rectifiers; 1—80 Rectifier; 2—866 Rectifiers.

CONTROLS

Audio gain; (speech amplifier) Off; Cathode current-Exc.-Mod; Plate pwr. On/Off; Fil. pwr. On/Off; C.W.-Phone; Bandswitch; Transmit-Standby; Plate tuning.

DIMENSIONS AND WEIGHT

Model HT-9, overall: 29⅛" wide by 12½" high by 20½" deep. Weight: 120 pounds. Packed for shipment 160 pounds.

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25 WATT MODEL HT-6

Filling a long felt need for a low cost high performance transmitter, the HT-6 offers most of the desirable features found in Hallicrafter's larger units. Complete sets of coils and crystal for any three bands may be plugged in, pretuned, and selected at will by means of a panel switch. All operating controls are conveniently arranged on the front panel. Metering of all circuits is provided by a switch which places the meter in the proper circuit. E.c.o. operation is available at any point in the amateur bands if desired. A high quality audio system assures complete modulation, and is designed for use with any medium level microphone. Normally operated from 115 A.C. line, a special socket permits emergency use with external power supply.

FEATURES

1. Frequency range, amateur bands from 1.7 Mc. to 60 Mc.
2. Normal power output 25 watts, phone or c.w.
3. Three operating frequencies may be preset in the transmitter and selected by means of the bandswitch.
4. 100 per cent modulation with low distortion.
5. All operating controls on front panel.
6. Metering of all circuits through use of multirange meter.
7. Input for medium level, high impedance microphone.
8. Carrier hum more than 40 db. below 100% modulation.
9. Frequency response flat within 3 db. between 125 and 5000 cycles.
10. Antenna coil to match all common resistive loads.
11. Line fuse mounted on rear of chassis.
12. Convenient table mounting.

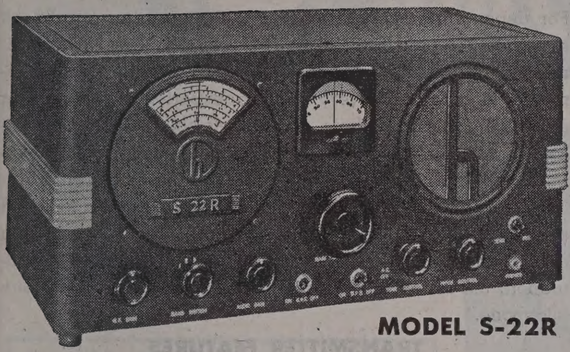
NINE TUBES

1—6J5 Oscillator (56 Mc. band only); 1—6L6 Crystal or e.c.o. Oscillator; 1—807 Power Amplifier; 1—6SQ7 Speech Amplifier; 1—6SC7 Phase Inverter; 2—6L6G Modulators; 2—5Z3 Rectifiers.

DIMENSIONS AND WEIGHT

Model HT-6—20" wide by 9" high by 15" deep. Weight—packed for shipment—67 pounds.

hallicrafters
MARINE EQUIPMENT



MODEL S-22R

THE SKYRIDER MARINE

EIGHT TUBES

1—6SK7 r.f. Amplifier; 1—6K8 1st Detector-Mixer, h.f. Oscillator; 1—6SK7 1st r.f. Amplifier; 1—6SK7 2nd r.f. Amplifier; 1—6SQ7 2nd Detector, a.v.c., 1st a.f. Amplifier; 1—25L6 2nd a.f. Amplifier; 1—6J5 Beat Frequency Oscillator; 1—25Z5 Rectifier.

DIMENSIONS AND WEIGHT

Cabinet only—18½" long by 8½" high by 9⅜" deep. Weight, packed for shipment—31 pounds.

Hallicrafters SKYRIDER MARINE, Model, S-22R, is specifically designed for marine service, in the range from 16.7 to 2730 meters (18 mc. to 110 kc.). Improved image rejection at the higher frequencies is achieved through the use of 1600 kc. IF amplifier. The directly calibrated main tuning dial eliminates the use of complicated charts and tables. An efficient mechanical bandspread with separate dial provides easy logging. Built for 110 volt a.c.-d.c. operation.

CONTROLS

R.f. gain; Band switch; Audio gain; A.v.c. On/Off; Main tuning; B.f.o. On/Off; Tone control; Pitch control; Send-Receive.

FEATURES

(1) Frequency range 110 kc. to 18 Mc. continuous except 1500 kc. to 1700 kc., in four bands. (2) Main tuning dial accurately calibrated in megacycles. (3) Mechanical bandspread with separate dial. (4) Beat frequency oscillator, pitch variable from front panel. (5) A.v.c. switch. (6) B.f.o. switch. (7) Send-receive switch. (8) Separate r.f. and a.f. gain controls. (9) Variable tone control. (10) Inertia flywheel tuning. (11) A.c./d.c. operation. (12) 1600 kc. iron core i.f. for maximum image rejection. (13) Internal rubber shock mounted 5" PM speaker.

MARINE RADIOTELEPHONE

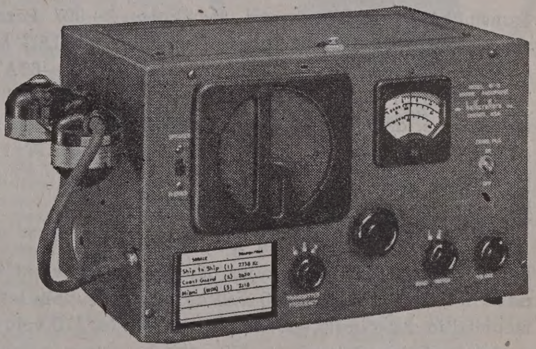
The Model HT-11 Marine Radiophone is a complete moderately priced ship to shore radio transmitter and receiver. The transmitter can be operated on three frequencies in the marine band of 2000 to 3000 kc. The receiver is manually tuned and covers the standard broadcast band on range No. 1. Range No. 2 covers the marine channels. The separate power supply is designed for 6 or 12 volt DC operation. Power units for other voltages are also available.

TRANSMITTER FEATURES

1. Instant selection of any three transmitter frequencies, crystal controlled.
2. Twelve watts output.
3. Transmitter may be used in the range 2000 kc. to 3000 kc.
4. Can be used with any length antenna.
5. Convenient "push to talk" operation.
6. Separate economical low drain power supply.
7. Rust and corrosion protected throughout.
8. Small size for ease of installation.
9. Can be supplied for use with any power source.
10. Panel mounted chart for recording of operating frequencies.

RECEIVER FEATURES

1. Two bands; broadcast 550 kc. to 1700 kc. and marine 2000 kc. to 3000 kc.
2. Receiver output may be switched to speaker or handset.
3. Built-in moisture resistant PM speaker.
4. Illuminated, easily read tuning dial.



MODEL HT-11

THE ENSIGN 12 WATT

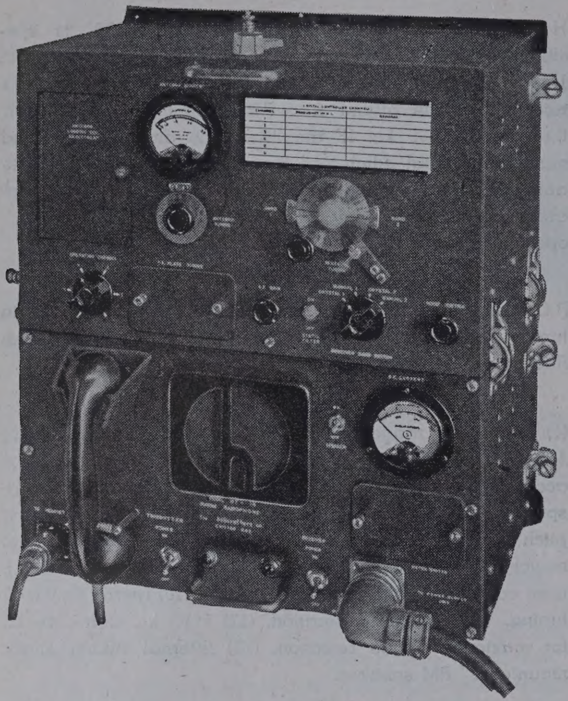
NINE TUBES

Receiver: 1—6SK7 r.f. Amplifier; 1—6K8 1st Detector-Mixer, h.f. Oscillator; 1—6SK7 i.f. Amplifier; 1—6SQ7 2d Detector, a.v.c.; 1st a.f. Amplifier; 1—6K6G 2nd a.f. Amplifier.
Transmitter: 1—6V6 Crystal-controlled Oscillator; 1—807 r.f. Amplifier Output Stage; 2—6V6 Push-pull Modulator Stage.

DIMENSIONS AND WEIGHT

HT-11 only—14⅛" wide by 9⅛" high by 9¼" deep. D.c. Power Supply with Cover—13" wide by 9½" high by 8⅜" deep. A.c. Power Supply with Cover—9¼" wide by 7⅜" high by 7¾" deep.
Model HT-11—31 pounds. D.c. power supply—21 pounds. A.c. power supply—21 pounds. Add three pounds to any of above for shipping weight.

hallicrafters
MARINE RADIOTELEPHONE



THE COMMODORE MODEL HT-14

TWENTY TUBES

Transmitter: 1—6L6G Crystal Oscillator; 2—807 Parallel r.f. Amplifier; 1—12J5GT Speech Amplifier; 4—6L6G Modulators; Receiver: 1—6SK7GT r.f. Amplifier; 1—6SA7GT 1st Detector; 1—6SK7GT I.f. Amplifier; 1—6H6GT 2nd Detector, a.v.c. and Noise Limiter; 1—6SK7GT 1st Audio Amplifier; 1—6K6GT 2nd Audio Amplifier; 1—6J5GT High Frequency Oscillator.

Power Supply: 1—80 Rectifier; 4—5Z3 Rectifiers.

POWER SUPPLY

Power supply combinations for use on four different voltages are available. The 115 volt a.c. power supply unit is mounted in a separate cabinet. The 32 volt (or 110 volt) d.c. models include a 32 volt (or 110 volt) d.c. rotary converter. The 12 volt d.c. model includes a 12 volt dynamotor.

PHYSICAL CHARACTERISTICS

The HT-14 Radiotelephone is mounted in a steel cabinet, divided into two sections which are held together by heavy clamps. The upper section contains the radio frequency components of both transmitter and receiver. The lower section holds the speech amplifier and modulator. The loud speaker is mounted in the center of the lower panel and the handset is hung in a bracket. All operating controls and switches are conveniently placed. The power supply unit is mounted in a separate cabinet.

ANTENNA REQUIREMENTS

The Model HT-14 Radiotelephone is designed to operate with any antenna from a 15 foot whip to a long wire. With single masted boats, an insulated forestay makes a satisfactory antenna. On boats having two masts, the antenna should be supported between the mast heads.

For dependable service under the most adverse conditions a higher powered transmitter is necessary. The New Hallicrafters COMMODORE, Model HT-14 Marine Radiotelephone incorporates every feature experience has shown desirable for ship-to-shore and ship-to-ship telephone service. A commercial adaptation of the famous Hallicrafters-built SCR-543, the HT-14 basic design has been literally "battle tested." With six crystal controlled channels selected simultaneously in both transmitter and receiver and an output of 45 watts capable of 100 percent amplitude modulation, the HT-14 is an ideal medium power marine radiotelephone.

TRANSMITTER FEATURES

1. Instant selection of any 6 operating frequencies, crystal-controlled in both transmitter and receiver.
2. 45 watts output.
3. Frequency range, 1680 to 4450 kc.
4. Any antenna from 15 feet to a long wire may be used.
5. "Push to talk" switch on handset.
6. All components rust and corrosion resistant.
7. Metering of antenna current, final amplifier grid and plate, and modulator plate provided.
8. Entire unit easily removable for ease of servicing.
9. May be operated from 115 volts a.c., 12, 32 or 115 volts d.c.
10. Chart mounted on panel for recording of operating frequencies.
11. All operating adjustments may be made at front of unit.

RECEIVER FEATURES

1. Two ranges; 1680 to 2750 kc. and 2750 to 4450 kc., either crystal controlled or manually tuned.
2. Crystal receiver frequencies switched simultaneously with those of the transmitter.
3. Iron core, high-Q inductances used in r.f., detector, and oscillator circuits provide maximum gain.
4. Exceptionally flat automatic volume control.
5. Newly developed diode noise limiter and audio filter circuit.
6. Receiver output may be used on handset or speaker.
7. 5" PM speaker with moisture resistant cone.

INSTALLATION

A universal type of shock mounting is furnished with the HT-14 permitting installation either on a bulkhead or table. Special screw type fasteners hold the HT-14 to the shock mounting and permit its easy removal for servicing.

DIMENSIONS (OVERALL) AND WEIGHTS

Main cabinet—23" high by 21" wide by 16¼" deep.
Power supply cabinet—9⅜" high by 16" wide by 15" deep.
These measurements include protruding parts.
Note: Shock mounts add 2¾" to height or depth according to type of installation.

Main cabinet—110 pounds.
115 volt a.c. Power supply—67 pounds.
Combined shipping weight—275 pounds.
For d.c. operated models, add 55 pounds to shipping weight.

Latest O.P.A. Approved Prices Quoted Upon Request

SINCE 1933

TIME ★ WILL ★ TELL

RME

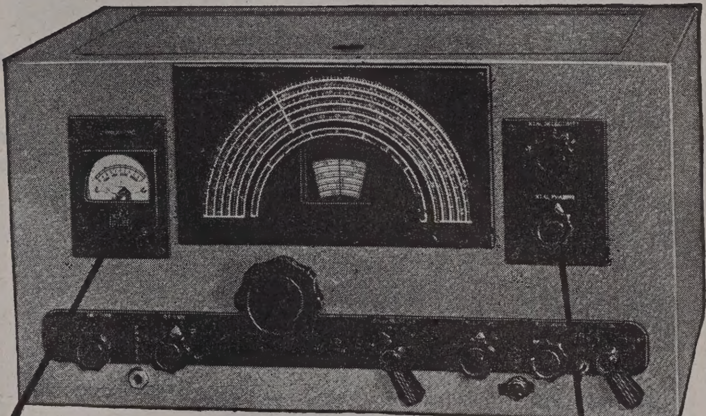
FINE COMMUNICATIONS EQUIPMENT

RADIO MFG. ENGINEERS, INC.

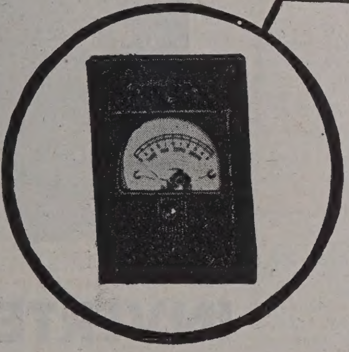
Peoria 6, Illinois U. S. A.

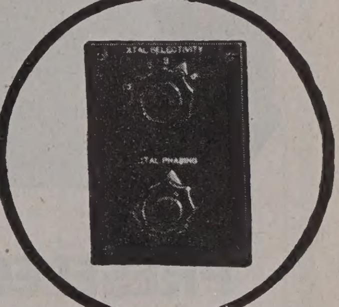
41 & 43

Communications Receivers



The RME 41 & 43 receiver models are identical with the exception of crystal filter and meter assemblies. The Model No. 41 is equipped with provision for installing a plug-in crystal filter and meter at the convenience of the individual listener. The 43 comes fully equipped with these units.





The RME 41-43 series receivers have been built for practical, all-around reception of all frequency channels from 550 to 33,000 kilocycles. Primarily designed as accurately calibrated, vernier tuned, sensitive communications receivers, these models are at the same time unusually convenient for purely private reception purposes.

Nine tubes are incorporated in the RME-41-43 using the superheterodyne circuit. **Loctal tubes, proven for their ideal high frequency tuning characteristics, have been chosen for** every radio-frequency, intermediate-frequency, and audio function in these instruments. Coupled with such innovations as a centrally located tuning condenser with triple spaced oscillator plates and with temperature compensated padder condensers, these loctal tubes produce incomparable results . . . especially on the higher frequency tuning channels.

Easily installed plug-in crystal filter and signel level meter are provided for the purpose of converting the RME-41 model into a complete RME-43. Other than this one exception the two models are identical in workmanship, components, and circuit construction.

The RME 41-43 series of receivers introduces for the first time in any RME receiver, a radically new type tuning system in which both the general coverage dial and bandspread dial are operated directly from one control. Termed the CAL-O-MATIC system, this innovation provides accurate direct calibration of the 5 amateur bands from 160 to 10 meters. . . and in addition, this system permits arbitrary calibration of ALL frequencies within the overall tuning range. All calibration points, whether bandspread or general tuning, are located automatically as these receivers are tuned. There are no dials to be pre-set and no padders to be pre-adjusted . . . all that is necessary for accurate tuning is the adjustment of a single tuning control.

TUBES USED: 7B7 r.f.; 7J7 det. & osc.; 7B7 i.f., 7B7 i.f.; 7A6 limiter; 7B6 detector & B.O., 7C7 a.f.; 7C5 beam power output; 80 rectifier.

- ★ **550-33,000 KC. in 6 bands**
- ★ **Calibrated bandspread**
- ★ **455 KC. i.f.**
- ★ **6 position variable crystal selectivity**
- ★ **Excellent signal-to-noise ratio**
- ★ **Uniform sensitivity**
- ★ **Temperature compensated oscillator components**
- ★ **Double antenna input**
- ★ **4 watts audio output**
- ★ **R.F. gain control, audio level control, standby switch, band change switch, B.O. pitch control, crystal phasing control, tone control, and headphone jack**
- ★ **Gray crinkle finish with black trim**

RME-41 Communications Receiver, two-tone only, in a gray crackle finished cabinet measuring 10"x10½"x19" with black trim, 9 tubes, less crystal filter and signal level meter. This model is equipped for easy installation of filter and meter. (See Codes: POMMY & PANER below.) 115 volt 50 to 60 cycle operation. With speaker in baffle.
Code: PONIS .... Net $145.80

Plug-in signal lever meter, fully calibrated in R-db units, for installation in the RME-41 receiver. (Includes a new panel plate.)
Code: PANER .... Net $10.80

Plug-in crystal filter complete with crystal, built as a unit, designed to plug into the RME-41. (Includes a new panel plate.)
Code: TOMMY .... Net $14.60

RME-43, mounted in a two-tone gray and black crackle gnished cabinet with black trim, measuring 10"x10½"x19", complete with tubes, crystal filter, and signal level meter. For 115 volt 50 to 60 cycle operation. With speaker in baffle.
Code: PILAR .... Net $166.00

SINCE 1933

TIME WILL TELL

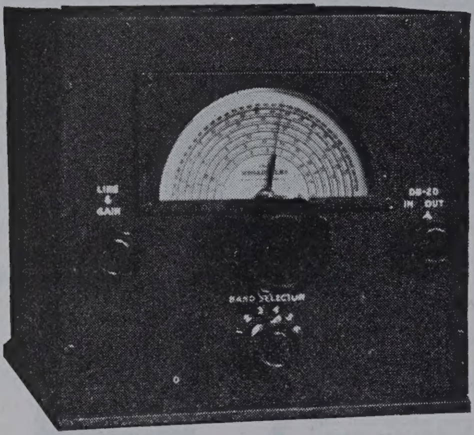
RME

FINE COMMUNICATIONS EQUIPMENT

RADIO MFG. ENGINEERS, INC.

Peoria 6, Illinois U. S. A.

RME ACCESSORY UNITS FOR RECEIVING EQUIPMENT



PRESELECTOR

DB-20

The addition of the DB-20 PRESELECTOR will improve the operating characteristics of any standard communications receiver enormously. Its addition adds 2 stages and 3 tuned circuits of radio frequency amplification ahead of the instrument.

Using 2-6K7 tubes in a high gain and completely stable circuit, this unit provides a signal step up of over 25 db operating on all frequencies from 550 to 33,000 kilocycles; at the same time it increases the ratio between signal and image until, at a 14 megacycle operating frequency this proportion becomes 50,000 to 1.

Contained in one cabinet, 9¼″ high, 9½″ wide, and 10½″ deep, finish—black or gray crinkle—power supply incorporated, antenna changeover switch, velvet smooth planetary tuning control, and 6 position band change switch.

DB-20 complete with tubes and interconnecting plug and cable, ready for operation from 110-120 volt, 50-60 cycle source.

Code: MONEL . . . . **Net $59.30**

INVERTER

LF-90

The LF-90 is a conversion unit designed for the purpose of expanding the tuning range of a standard radio receiving set to include reception of signals in the 90 to 608 kilocycles band. The only prerequisite for using the LF-90 for this purpose is that the receiver to be converted, must be capable of tuning to a conversion frequency of 1550 KC.

The LF-90 is ideal for simple and economical reception of low frequency signals such as beacon stations, weather reports, aircraft, and ship-to-shore radio telephones. Its gain is about 15 db over that of a standard receiving set. Its selectivity is quite adequate for the requirements of this type of reception.

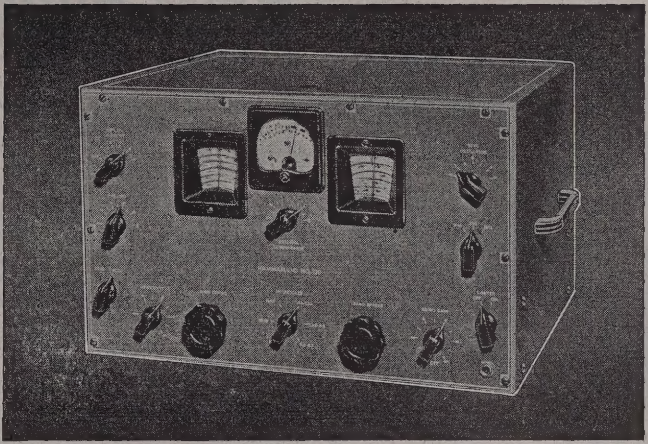
This unit is of small size neatly housed in a black or gray metal cabinet measuring 4″ wide, 9¼″ high, and 10½″ deep. It has its own power supply, uses two tubes, a 6K8 and a 6ZY5G, and is provided with a convenient antenna changeover switch.

LF-90 complete with tubes and interconnecting plug and cable, ready for operation from a 110-120 volt, 50-60 cycle source.

Code: LIFER . . . . **Net $29.70**

HAMMARLUND

"HQ-120-X" AMATEUR RECEIVER



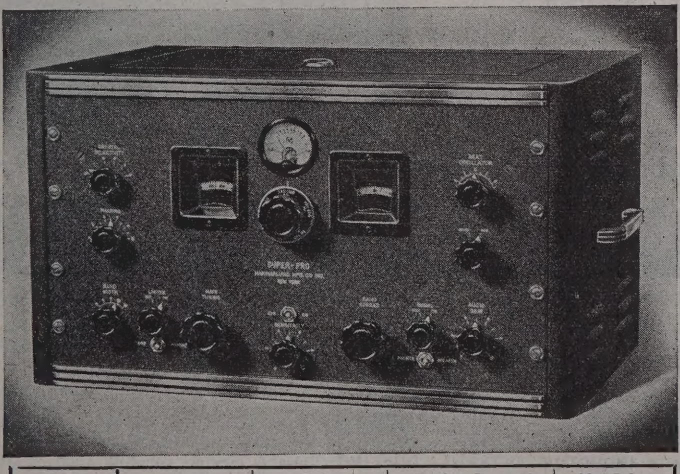
THE HAMMARLUND "HQ-120-X" meets the most critical demands of amateur and professional operators. Hammarlund engineers have gone beyond ordinary practice in designing this new and outstanding receiver. This ultra-modern 12-tube superheterodyne covers a continuous range of from 31 to .54 mc. (9.7 to 555 meters) in six bands, taking in all important amateur, communication, and broadcast channels. The "HQ-120-X" is not to be confused with modified broadcast sets. Two years were required to develop it. This is a special receiver with special parts throughout. Every wave range is individual—that is, each range has its own individual coil and a tuning condenser of proper value for maximum efficiency; thus, including the broadcast band does not decrease efficiency at high frequencies. Besides having all the necessary features for perfect short wave reception, such as A.V.C., beat oscillator, send-receive switch, phone jack and relay terminals, the "HQ-120-X" also includes a new and outstanding crystal filter circuit which is variable in 6 steps from ful band-width to razor edge selectivity. This permits the use of the crystal filter for the reception of both voice and music. It is no longer necessary to contend with serious heterodyne interference. These annoying disturbances can be phased out with the phasing control on the panel. Other features include a new and accurate "S" meter circuit for measuring incoming signal strength; antenna compensator to compensate for various antennas, and 310 degrees band-spread for each amateur band from 80 to 10 meters. The band spread dial is calibrated in megacycles for each of these amateur bands. The main tuning dial is calibrated in megacycles throughout the entire range of the receiver. Rack Adapter $6.00 extra. Standard models finished in gray.

Prices Include Speaker and Tubes

Code	Type	Tuning Range	Speaker	Net Price
HQ-120-X	Crystal	31 — .54 mc.	10" P.M. Dyn.	$168.00
Speaker cabinet (metal) 12½" x 12½" x 7 inches				3.90

Special model finished in black.......$168.00 Net
Speaker Cabinet to match.......3.90 Net

Send for Descriptive Booklet!



Code	Type	Spkr.	Tuning Range	Net Price
SP-210-X	Crystal	10"	15 — 560 meters	$318.00
SP-210-SX	Crystal	10"	7½ — 240 meters	318.00
SP-220-X	Crystal	12"	15 — 560 meters	330.00
SP-220-SX	Crystal	12"	7½ — 240 meters	330.00
PSC	10" Speaker Cabinet to Match Receiver			5.10

Special Models Covering Other Wave Ranges Available On Order

NEW "SUPER-PRO"

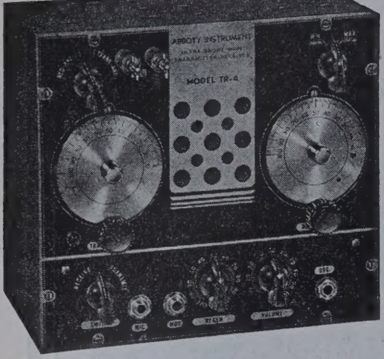
THIS new 18-tube "SUPER-PRO" includes all the outstanding features which have made the "Super-Pro" famous, and in addition many recent developments have been added. The new "Super-Pro" has a variable selectivity crystal filter. This crystal filter has five positions of selectivity—3 for phone and 2 for CW. The variable crystal filter, in addition to the variable band width I.F., provides a selectivity range of from less than 100 cycles to approximately 16 kc. The new "Super-Pro" also has an improved noise limiter designed to minimize interference caused by automobile ignition systems and disturbances of similar nature. Maximum image suppression is obtained with two stages of high selectivity tuned R.F. ahead of the first detector. Three stages of I.F. are employed and there are three stages of high fidelity audio amplification resulting in an output of approximately 16 watts. A new and improved "S" meter has been installed in the "Super-Pro" for accurately reporting relative signal strength. Other features include full band-spread on all bands; beat oscillator; send - receive switch; relay connections; phone connections; connections for phono-pickup; beautifully finished modernistic cabinet. The sensitivity of the "Super-Pro" is better than 1 microvolt. Available in rack mounting type at $10.50 extra.

Write for Circular!

ABBOTT

INSTRUMENTS *for defense . . . emergency . . . or amusement*

TR-4 Ultra High Frequency
2½ Meter TRANSMITTER-RECEIVER



Designed for either fixed station operation or as a mobile unit in automobile, truck, boat or airplane . . . the TR-4 requires a 6 volt battery or 110 volt, 60 cycle A.C. power supply. Its separate receiver employs a Hytron HY-615 as a super-generative detector, while the transmitter utilizes a Hytron HY-75 as an ultra-high frequency oscillator. Operating at approximately 15 to 20 volts, the detector becomes extremely sensitive, and reduces receiver radiation to an absolute minimum.

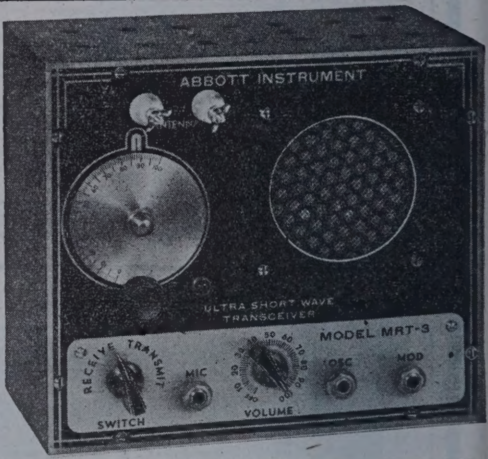
The receiver portion of this Abbott TR-4 incorporates a specially designed circuit in addition to numerous mechanical refinements, including front of panel control variable inductive coupling, variable sensitivity control, audio volume control, etc. . . .

Absolute separation of transmitter and receiver sections eliminates the inconvenience of retuning when switching from SEND to RECEIVE during a contact. A ganged antenna send-receive switch is automatically operated when the single, master SEND-RECEIVE switch is operated, enabling the use of a common antenna for both the transmitter and the receiver. The 5 inch PM speaker is self-contained.

● **FREQUENCY:** 112 to 116 MC ● **RANGE:** Varying from 5 to 75 miles, depending upon terrain. Contacts up to 150 miles heva been completed in field tests ● **TUBES USED:** One each of Hytron HY-615, Hytron HY-75, 7F7, 6V6 or 6L6 ● **MICROPHONE:** Any good single button microphone.

TR-4—Overall size 9″ x 8″ x 4½″, less tubes and power supply. **Net Price to Amateur** **$39⁰⁰**

HIGH POWER—2½ METER
MOBILE OR FIXED STATION MRT-3 TRANSCEIVER

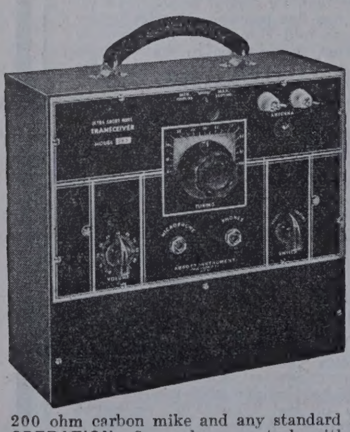


New, redesigned MRT-3—20 WATTS INPUT; rugged and compact; low priced; ideal for use in automobile, truck, boat or airplane; simple to install and operate; satisfactory operating range from 5 to 50 miles, depending upon terrain and antenna.

● **FOR MOBILE OPERATION:** Any standard 300 volt, 100 MA Vibrator power supply with filter added ● **FOR FIXED STATION:** Any good AC power supply having an output of 300 volts at 100 MA and 6.3 volts at 3.5 amperes ● Antenna coupling is mounted on Polystyrene rod and can be varied by pushing in or out ● **TUBES REQUIRED,** HY-75, 6C5, and 6L6 (or 6V6). **MRT-3**—9″ x 8″ x 4″ in size, with self-contained P.M. Dynamic speaker, less tubes and power supply.

Net Price to Amateur **$29⁴⁰**

2½ METER PORTABLE—MOBILE—FIXED STATION
DK-3 TRANSCEIVER



The DK-3 features INDUCTIVE ANTENNA COUPLING, continuously variable and controlled from a special coupling knob on the front panel. This enables use of maximum power while the transmitter is in operation and permits a wide degree of receiver control. Weak signals, lost under ordinary conditions, can be worked. Effective range varies from 2 to 30 miles, depending upon terrain.

SPECIFICATIONS

● **FREQUENCY:** Covers the amateur 2½ meter band (112 to 116 mc.) ● **FOR PORTABLE OR MOBILE BATTERY OPERATION:** Three 45 volt B batteries (Eveready No. 482 or Burgess M30) and four 1½ volt batteries (Eveready No. 742 or Burgess 4FH) ● **FOR FIXED STATION, 110 VOLT AC OPERATION:** Use an AC power supply giving 135 to 180 volts DC output ● **INDUCTIVE ANTENNA COUPLING:** Variable antenna coupling knob on front panel permits maximum power in transmit position and enables flexible receiver control for both weak and powerful signals ● **ANTENNA:** For portable operation; two pieces of copper or aluminum tubing approximately 17 inches long or an adjustable vertical antenna. For fixed station operation; most standard antennas will work with the DK-3 variable inductive coupling ● **ONLY TWO INEXPENSIVE TUBES:** 6G6G as Audio Amplifier (to receive) or as modulator (to transmit); 6J5GT as Super Regenerative Detector (to receive) or as Oscillator (to transmit) ● **MICROPHONES AND HEADPHONES:** Use any good single button 200 ohm carbon mike and any standard headphones. Handsets should incorporate 200 ohm microphone and high impedance phone ● **SIMPLE OPERATION:** One volume control, with on-off switch, for both receive and transmit positions; microphone and headphone jacks; variable antenna coupling knob; ceramic antenna insulators; transmit and receive switch; large easy-tuning knob.

DK-3 Transceiver for 2½ meter operation. Completely self-contained, battery operated, ultra high frequency radio-telephone transmitter or receiver. Compact, grey wrinkle finish metal case with sturdy leather handle. Removable back panel for easy access to batteries and tubes. Size, 11″ x 11″ x 4½″. Shipping weight, 11 pounds. **Net Price to Amateur** **$19²⁰**

NATIONAL NEW PRICE LIST

AUDIO AMPLIFIERS

Symbol	*List*	*Net*
NSA	$125.00	$75.00
NSA-RA	140.00	84.00
NSA-RS	135.00	81.00

BUSHINGS

SB		.30	.18
TPB	Doz.	.85	.51
XP-6	Ten	.85	.51
XS-6		.20	.12

BUSHINGS (Antenna)

XS-1	Pr.	1.20	.72
XS-2	Pr.	1.35	.81
XS-3	Pr.	6.00	3.60
XS-4	Pr.	7.25	4.35
XS-5	Ea.	8.25	4.95
XS-5F	Pr.	17.00	10.20
XS-7		.55	.33
XS-8		.75	.45

CABINETS

C-SW3	6.00	3.60
C-NC100	9.50	5.70
C-HRO	9.50	5.70
C-110	5.00	3.00
C-SRR	4.00	2.40

CABINETS (Speaker)

NDC-2	8.50	5.10
NDC-8	5.50	3.30
NDC-10	6.60	3.96

CHART FRAMES

CFA	.55	.33

CHOKES

R-100	.50	.30
R-100U	.60	.36
R-300	.50	.30
R-300U	.60	.36
R-175	3.00	1.80
R-152	2.50	1.50
R-154	2.50	1.50
R-154U	2.00	1.20

COILS (Exciter)

AR16-5	1.65	.99
AR16-10	1.65	.99
AR16-20	1.65	.99
AR16-40	1.65	.99
AR16-80	1.65	.99
AR16-160	1.65	.99

COILS (Receiver)

"HRO"

HRO-A	22.00	13.20
HRO-B	22.00	13.20
HRO-C	22.00	13.20
HRO-D	22.00	13.20
HRO-E	22.00	13.20
HRO-F	22.00	13.20
HRO-G	30.00	18.00
HRO-H	33.00	19.80
HRO-J	40.00	24.00

"HRO Junior"

JA	18.25	10.95
JB	18.25	10.95
JC	18.25	10.95
JD	18.25	10.95

SW-3

General Coverage

No. 30	3.85	2.31
No. 31	3.85	2.31
No. 32	3.85	2.31
No. 33	3.85	2.31
No. 34	3.85	2.31
No. 35	3.85	2.31
No. 36	4.40	2.64
No. 37	4.40	2.64
No. 38	5.50	3.30
No. 39	7.25	4.35
No. 40	7.25	4.35
No. 41	7.25	4.35
No. 42	9.50	5.70

SW-3

Band Spread

30A	3.85	2.31
31A	3.85	2.31
33A	3.85	2.31
34A	3.85	2.31
35A	3.85	2.31

COIL ASSEMBLIES

UR-10A	5.00	3.00
UR-13	2.75	1.65
UR-13A	2.25	1.35
UR-14A	7.00	4.20
UR-16	**1.70**	**1.02**

COIL BASES (Plug-In)

Symbol	*List*	*Net*
PB-5	$ .85	$ .51
PB-10-5, PB-10-6	.85	.51
PB-10A-5, PB-10A-6	.45	.27
PB-15	1.50	.90
PB-16	.45	.27

COIL CONTAINERS (Rack)

HCRP	30.00	18.00

COIL DOPE

CD-1	1.65	.99

COIL FORMS

High Frequency

PRC-1	.20	.12
PRC-2	.20	.12
PRC-3	.20	.12
PRD-1	.20	.12
PRD-2	.20	.12
PRE-1	.25	.15
PRE-2	.25	.15
PRE-3	.35	.21
PRF-1	.35	.21
PRF-2	.45	.27

Receiver

XR-4, XR-5, XR-6	.85	.51
XR-1	.55	.33
XR-2	.40	.24
XR-3	.35	.21

Transmitter

XR-10A	1.65	.99
XR-13	1.25	.75
XR-13A	.70	.42
XR-14A	4.00	2.40
XR-16	.70	.42

COMBINATION UNITS

SPC	99.00	59.40

CONDENSERS (Neutralizing)

NC-75	4.50	2.70
NC-150	7.25	4.35
NC-500	13.75	8.25
NC-600	.50	.30
NC-600U	.60	.36
NC-800	3.00	1.80
STN	2.00	1.20
TCN	4.00	2.40

CONDENSERS (Padding)

M-30		.35	.21
MSR MSE MSL	25	1.45	.87
	50	1.65	.99
	75	1.90	1.14
	100	2.10	1.26
USR USE USL	25	1.45	.87
	50	1.65	.99
	75	1.90	1.14
	100	2.10	1.26
W-75		2.50	1.50
W-100		2.75	1.65

CONDENSERS (Precision)

NPW-3	26.50	15.90
NPW-X	22.50	13.50
PW-1R	16.50	9.90
PW-1L	16.50	9.90
PW-2R	22.00	13.20
PW-2L	22.00	13.20
PW-2S	22.00	13.20
PW-3R	26.50	15.90
PW-3L	26.50	15.90
PW-4	30.00	18.00

CONDENSERS (Receiving)

EMC-150	4.50	2.70
EMC-250	5.50	3.30
EMC-350	6.75	4.05
EMC-500	8.50	5.10
EMC-1000	12.50	7.50
EMCD-350	13.00	8.10
EX-15	.95	.57
EX-25	.95	.57
EX-35	1.10	.66
EX-50	1.00	.60
EX-100	1.10	.66
EX-140	1.40	.84
SEU-15	2.75	1.65
SEU-20	3.00	1.80
SEU-25	3.00	1.80
SE-50	2.50	1.50
SE-75	2.75	1.65
SE-100	3.00	1.80
SE-150	3.25	1.95
SEH-200	3.25	1.95
SEH-250	3.50	2.10
SEH-300	3.50	2.10
SEH-335	3.85	2.31

CONDENSERS (Receiving) — Continued

Symbol	*List*	*Net*
STHS-15	$ 1.50	$ .90
STHS-25	1.65	.99
STHS-50	1.75	1.05
ST-35	1.65	.99
ST-50	2.00	1.20
ST-75	2.25	1.35
ST-100	2.50	1.50
ST-140	2.75	1.65
ST-150	2.75	1.65
STH-200	3.00	1.80
STH-250	3.30	1.98
STH-300	3.50	2.10
STH-335	4.00	2.40
STD-50	4.00	2.40
STHD-100	5.00	3.00
UM-15	1.40	.84
UM-35	1.65	.99
UM-50	1.75	1.05
UM-75	1.90	1.14
UM-100	2.10	1.26
UMA-25	2.00	1.20
UMB-25	2.00	1.20

CONDENSERS (Transmitting)

TMA-300	12.00	7.20
TMA-50A	6.50	3.90
TMA-100A	10.00	6.00
TMA-150A	12.00	7.20
TMA-230A	16.00	9.60
TMA-100B	13.50	8.10
TMA-150B	17.00	10.20
TMA-50C	8.00	4.80
TMA-100C	14.50	8.70
TMA-200D	15.00	9.00
TMA-50DA	11.00	6.60
TMA-100DA	17.50	10.50
TMA-60DB	18.50	11.10
TMA-40DC	13.50	8.10
TMC-50	4.40	2.64
TMC-100	5.00	3.00
TMC-150	5.75	3.45
TMC-250	6.60	3.96
TMC-300	7.25	4.35
TMC-50D	7.25	4.35
TMC-100D	8.25	4.95
TMC-200D	11.00	6.60
TMH-50	3.85	2.31
TMH-75	4.40	2.64
TMH-100	5.25	3.15
TMH-150	6.60	3.96
TMH-35A	5.75	3.45
TMH-35D	6.00	3.60
TMH-50D	6.60	3.96
TMH-75D	8.00	4.80
TMK-35	3.60	2.16
TMK-50	3.85	2.31
TMK-75	4.15	2.49
TMK-100	4.40	2.64
TMK-150	5.00	3.00
TMK-200	5.50	3.30
TMK-250	6.00	3.60
TMK-35D	5.75	3.45
TMK-50D	6.50	3.90
TMK-100D	8.00	4.80
TML-75E	28.75	17.25
TML-150D	29.00	17.40
TML-100D	26.00	15.60
TML-50D	18.00	10.80
TML-245B+	31.50	18.90
TML-150B+	28.75	17.25
TML-100B+	27.50	16.50
TML-75B+	20.00	12.00
TML-500A+	38.50	23.10
TML-350A+	30.75	18.45
TML-250A+	28.75	17.25
TML-30DE	29.00	17.40
TML-60DD	31.50	18.90
TML-100DB+	35.00	21.00
TML-60DB+	30.00	18.00
TML-200DA+	38.50	23.10
TML-100DA+	31.50	18.90
TMS-100	2.75	1.65
TMS-150	3.00	1.80
TMS-250	3.30	1.98
TMS-300	4.00	2.40
TMSA-35	3.30	1.98
TMSA-50	3.60	2.16
TMS-50D	4.25	2.55
TMS-100D	5.00	3.00
TMSA-50D	4.40	2.64

COUPLINGS

TX-1	1.10	.66
TX-2	1.25	.75
TX-8	.85	.51
TX-9	1.25	.75
TX-10	.60	.36
TX-11	.70	.42
TX-12	1.40	.84
TX-13	1.65	.99

(OVER)

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

NATIONAL PRICE LIST –Continued

DIALS

Symbol	List	Net
A-2, A-4, A-5	$ 3.30	$ 1.98
A-2, 3⅜″	3.30	1.98
ACN	5.00	3.00
AL	5.00	3.00
AO	4.00	2.40
B-1, B-5	3.00	1.80
BM-1, BM-5	2.75	1.65
K	1.65	.99
L	2.75	1.65
M	2.75	1.65
N-2, N-3, N-4, N-5	7.50	4.50
O	1.65	.99
R	.85	.51

DIAL ILLUMINATORS

B-Type	.55	.33

DIAL KNOBS

HRK	.95	.57
HRP	.30	.18
HRP-P	.40	.24

DIAL LOCKS

ODL	.55	.33

DRIVES

NPW-O	12.00	7.20
PW-O	15.00	9.00
ODD	.70	.42

EXCITER TANKS

FXT	5.00	3.00
FXTB-5, FXTB-6	5.50	3.30

GRID AND PLATE GRIPS

No. 8	.05	.03
No. 12	.10	.06
No. 24	.05	.03

GRID AND PLATE GRIPS (Insulated)

SPG	.40	.24
SPP-9	.40	.24
SPP-3	.35	.21

HARDWARE

SMH	.15	.09

INSULATORS (Antenna)

AA-3	.60	.36
AA-5	.50	.30
AA-6	.90	.54

INSULATORS (Panel)

FWC	Pr. .40	.24
FWB	.10	.06

INSULATORS (Stand-Off)

GS-1	.40	.24
GS-2	.50	.30
GS-3	1.00	.60
GS-4	1.25	.75
GS-4A	1.75	1.05
GS-5	.40	.24
GS-6	.70	.42
GS-7	1.25	.75
GS-8	.90	.54
GS-9	1.25	.75
GS-10	Ten 1.20	.72

JACKS

FWE	.20	.12

JACK TOPS

GSJ	.10	.06

MODULATORS

Symbol	List	Net
NSM	$143.00	$ 85.80
NSM-RA	159.50	95.70
NSM-RS	154.00	92.40

OSCILLOSCOPES

CRM	21.00	12.60
CRR	35.00	21.00

OSCILLATOR COILS

OSR	1.65	.99

POWER SUPPLIES (Receivers)

5856	32.50	19.50
5886	32.50	19.50
697	29.50	17.70
SPU-697	55.00	33.00
SPU-56	55.00	33.00
DPU-697	87.50	52.50

POWER SUPPLIES (Vibrapack)

686	49.50	29.70

RECEIVERS

HRO-Table	329.50	197.70
HRO-Rack	352.00	211.20
HRO-C	475.00	285.00
HRO-Jr. Table	198.00	118.80
HRO-Jr. Rack	220.00	132.00
*NC-45	84.17	50.50
*NC-45A	84.17	50.50
*NC-45B	84.17	50.50
NC-100A	220.00	132.00
NC-100AB	200.00	120.00
NC-100SA	244.75	146.85
NC-100XSA	286.00	171.60
NC-100XA	261.25	156.75
NC-100XAB	244.00	146.40
NC-101X	236.50	141.90
NC-101XB	220.00	132.00
NC-101XA	236.50	141.90
NC-101XAB	220.00	132.00
*NC-200TG	265.83	159.50
*NC-200RG	289.33	173.60
NHU	302.50	181.50
NHU-20	319.00	191.40
NHU-R	324.50	194.70
NHU-20-R	341.00	204.60
SCR-2	275.00	165.00
"1-10"	93.50	56.10
SW-3U	38.50	23.10

RELAY RACKS

MRR	24.75	14.85

RELAY RACK ADAPTERS

RRA	2.75	1.65

SHAFT LOCKS

RSL	.95	.57

SHIELDS (Coil

B30	.40	.24
B30-B	.55	.33
J30	.40	.24
RO	.40	.24

SHIELDS (Jack)

JS-1	.40	.24

* Price does not include Loud Speaker.

SHIELDS (Tube)

Symbol	List	Net
TS	$ .45	$ .27
T14	.45	.27
T58	.45	.27
T78	.45	.27
T07	.45	.27

SOCKETS (Coil)

XB-5	.85	.51
XB-15	2.00	1.20
XB-16	.55	.33
XC-6C	.85	.51

SOCKETS (Tube)

CIR-4 to 8	.45	.27
JX-50	1.35	.81
JX-50S	1.65	.99
JX-100	3.30	1.98
JX-100S	4.00	2.40
XC-4	.60	.36
XC-5	.65	.39
XC-6	.70	.42
XC-7S	.75	.45
XC-7L	.75	.45
XC-8	.65	.39
XCA	1.65	.99
XMA	2.20	1.32
XM-10	1.50	.90
XM-50	2.00	1.20

SPEAKERS

MCS	18.25	10.95
NC-2RS	25.00	15.00
NC-2TS	25.00	15.00
NC-45TS	11.66	7.00
RFSH	33.00	19.80

SWITCHES

ACS-1	1.40	.84
ACS-4	5.50	3.30

TANKS (Transmitting)

5-B-100	40.00	24.00

TERMINALS

FWA-post	.30	.18
FWF-plug	1.10	.66
FWG	.70	.42
FWH	.95	.57
FWJ	.75	.45

TRANSFORMERS (Audio)

S-101	6.60	3.96

TRANSFORMERS (I.F.)

IFC	5.50	3.30
IFCO	5.50	3.30
IFD	3.85	2.31
IFE	5.50	3.30

TRANSMITTERS

NTX-30	215.00	129.00
NTX-30, RS	226.00	135.60
NTX-30, RA	231.50	138.90
NTX-30, NSM Comb.	380.00	228.00

TUNER UNITS (Broadcast)

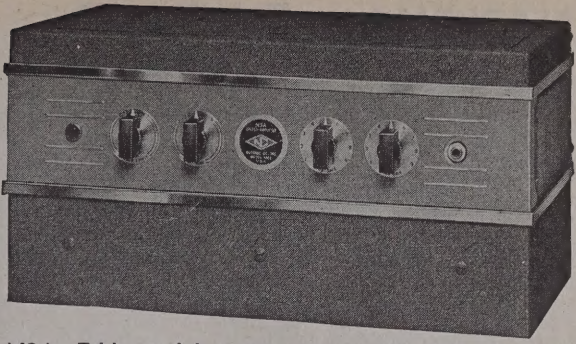
DLCA-Chassis	5.00	3.00
DLPS-Panel	1.65	.99
DLPA-Panel	5.50	3.30
DLT Transformers	Ea. 7.25	4.35
DLUA	86.50	51.90
DLUS	82.50	49.50

NATIONAL COMPANY, INC.

NSA HIGH-FIDELITY SPEECH AMPLIFIER

The NSA is an eight tube amplifier capable of delivering 15 watts of undistorted output. Two input circuits with electronic mixer, and with separate gain controls are provided. The low level circuit has a gain of approximately 125 db and is suitable for crystal microphones, etc. The high level circuit has a gain of approximately 70 db, and is for phonograph pickups, etc.

Normal frequency range is 25 to 10,000 cycles within 2 db, but a tone control is provided which permits attenuating high frequencies or low frequencies, or both. Push pull 2A3's are used in the output with fixed bias obtained from a separate built-in rectifier.



NSA, Table model, two-tone gray finish, complete with tubes. **List $**

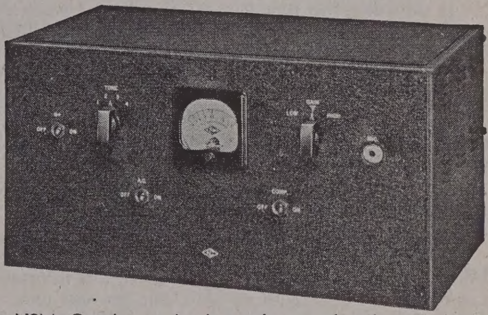
NSA-RA, Rack model on 3/16" aluminum relay rack panel, finish black wrinkle, with tubes. **List $**

NSA-RS, Rack model on ⅛" steel relay rack panel, finish black wrinkle, with tubes. **List $**

NATIONAL NSM MODULATOR

The new Type NSM Modulator Unit is intended particularly for use with the NTX-30 Transmitter, but its many advanced features make it desirable for any modulating job within its 30 watt rating. Typical among its features are Automatic Volume Compression, permitting high modulation levels without danger of overmodulation, its DB meter indicating the amount of compression, its four-position tone control which cuts either highs or lows, or both, or leaves intact the normal range of 50 to 10,000 cycles, and its two separate input circuits.

Four stages of resistance-coupled amplification with 6C6 input, 6D6 second stage, 6F8G phase inverter, and push pull 6L6G output — Power gain approximately 135 db, output 30 watts — 6X5 high voltage rectifier used in Automatic Volume Compression circuit — VR-150 Voltage Regulator. Two separate input circuits, one of which omits the first 6C6 amplifier tube — Frequency response flat from 50 to 10,000 cycles.



NSM, Complete with tubes and mounted in the table model steel cabinet. Finished in black wrinkle. As illustrated above. **List $**

NSM-RS, Same as above but mounted on ⅛" steel relay rack panel finished in black wrinkle. **List $**

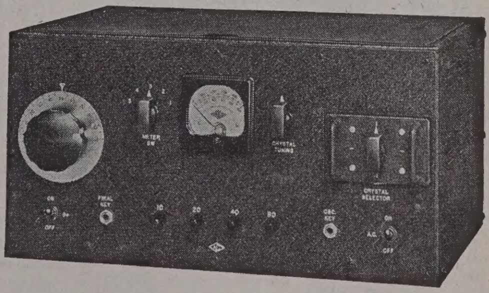
NSM-RA, Ditto but with 3⁄16" aluminum panel. Finished in black wrinkle. **List $**

NTX-30 TRANSMITTER

The NTX-30 is an exceedingly compact and convenient transmitter having an output of 30 watts on 10, 20, 40 and 80 meters. It employs an efficient exciter system and features a special interlocking push switch in the exciter circuits. AR16-S swinging link type coils described on Page 8 are used in the output stage. Four 6L6's are used as crystal oscillator and doublers, and two 6L6G's are used in the final.

The unit is a self-contained transmitter for CW operation. For phone an external modulator must be used. The NSM described above is ideal for this purpose. Terminals are provided at the rear of the NTX-30 for connecting the modulator.

Structurally, the NTX-30 consists of an exciter with a final stage. Panel control of crystal frequency, interlocking push switch, meter for circuit adjustments, etc. are provided. The NTX-30 has the advantage of a proven design in its circuits, and is ideally suited for use as an exciter-buffer combination whenever higher power is desired.



NTX-30, Table Model Transmitter, complete with all coils, tubes and crystal holder, but less crystal, for operation on 10, 20, 40, and 80 meter bands. **List $**

NTX-30, RS, Rack Model, same as above but mounted on ⅛" steel panel. Black wrinkle finish. **List $**

NTX-30, RA, Rack Model, same as above but mounted on 3⁄16" aluminum panel. Black wrinkle finish. **List $**

Shipping Weight Approx. 70 Lbs.

Special combination NTX-30-RS Transmitter and NSM-RS Speech Amplifier mounted in steel cabinet, black wrinkle finish. **List $**

PRICES LISTED ON PAGES H-17 AND H-18

NATIONAL HRO

The HRO Receiver is a high-gain superheterodyne designed for communication service. Two preselector stages give remarkable image suppression, weak signal response and high signal-to-noise ratio. Air-dielectric tuning capacitors account, in part, for the high degree of operating stability. A crystal filter with both variable selectivity and phasing controls makes possible adjustment of selectivity over a wide range. Heterodynes and interfering c.w. signals may be "phased out" (attenuated) by correct setting of the phasing control. A signal strength meter, connected in a vacuum tube bridge circuit, is calibrated in S units from 1 to 9 and in db above S9 from 0 to 40. Also included are automatic and manual volume control features, a beat oscillator, a headphone jack and a B+ stand-by switch. Power supply is a separate unit. The standard model of HRO is supplied with four sets of coils covering the frequencies from 1.7 to 30 megacycles. Each coil set covers two amateur bands and the spectrum between. The higher frequency amateur band of each range, by a simple change-over operation, may be expanded to occupy 400 divisions of the 500 division PW instrument type dial.

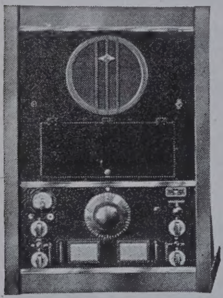
For those who require the high performance of the HRO but do not need its extreme versatility, the HRO Jr. is offered. The fundamental circuit and mechanical details of both receivers are identical, but the HRO Jr. is simplified by omitting the crystal filter, signal strength meter and by supplying coils less the band-spread feature.

The frequency range of both the HRO and HRO Jr. may be extended to 50 kilocycles by using additional coil sets.

A technical bulletin covering completely all details will be supplied on request.

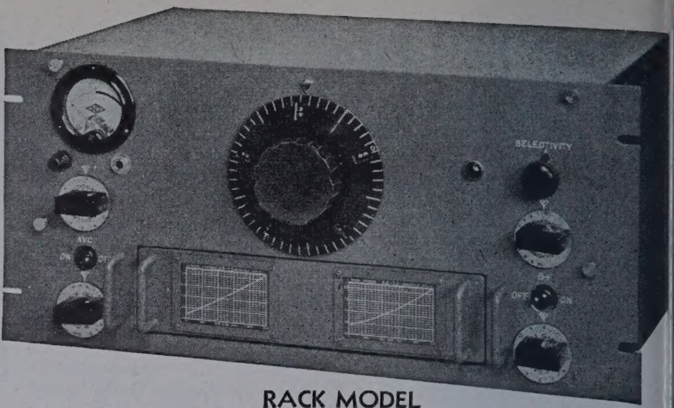
HRO-C DELUXE COMBINATION

HRO-C, a deluxe receiver installation, see illustration, combines an HRO with an SPC unit (power unit, coil container and loud speaker) in an MRR table rack. Chromium-plated appearance strips and side trim strips included. **List $**



SPC, combination of 697 power unit, coil container (5 coil capacity) and 8″ PM dynamic speaker. Rack panel, 3/16″×15¾″×19″. Chrome strips included. **List $**

MRR, table rack, standard width, panel capacity 24½″, finish black or gray. Side trim strips included. **List $**



RACK MODEL

RECEIVERS

All models of the HRO are supplied with 6.3 volt heater type tubes. Both rack and table models and accessories are finished in black wrinkle enamel.

HRO table model, receiver only, complete with four coil sets. (1.7–4.0, 3.5–7.3 7.0–14.4, 14.0–30.0 MCS) **List $**

HRO, same as above, but mounted on 3/16″ x 8¾″ x 19″ aluminum panel. **List $**

HRO Jr., table model, receiver only, with one set of 14 to 30 mc. coils. **List $**

HRO Jr., same as above, but mounted on an aluminum panel. **List $**

COILS

HRO Type E,	Range	900–2050	kc	**List $**
HRO Type F,	Range	480–960	kc	**List $**
HRO Type G,	Range	180–430	kc	**List $**
HRO Type H,	Range	100–200	kc	**List $**
HRO Type J,	Range	50–100	kc	**List $**
HRO Jr. Type JA,	Range	14.0–30.0	mc	**List $**
HRO Jr. Type JB,	Range	7.0–14.4	mc	**List $**
HRO Jr. Type JC,	Range	3.5–7.3	mc	**List $**
HRO Jr. Type JD,	Range	1.7–4.0	mc	**List $**

COIL CONTAINER

HCRP coil container, rack panel 3/16″ x 7″ x 19″, capacity 5 coils. **List $**

LOUD SPEAKERS

MCS table model cabinet, 8″ PM dynamic speaker and matching transformer. **List $**

RFSH, speaker as above, but mounted on 3/16″ x 8¾″ x 19″ aluminum panel. **List $**

POWER SUPPLIES (see page 14 for illustration)

697 Table power unit; 115 volt, 60 cycle input; 6.3 volt heater and 230 volt, 75 m.a output, with tube. **List $**

686 Table power unit, 6 volt battery operated vibrator pack, 165 volts, 50 m.a. output **List $**

SPU-697 Single power unit, rack mounted panel, 3/16″ x 5¼″ x 19″. **List $**

DPU-697 Double power unit, rack mounted, as above but having two separate 697 powe units. **List $**

Shipping weights: HRO — 62 lbs. **HRO Jr.** — 42 lbs. **697** — 15 lbs. **SPU-697** — 3 lbs. **DPU-697**— 48 lbs. **SPC** — 48 lbs. **MRR** — 21 lbs.

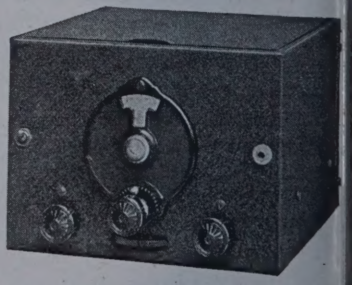
NATIONAL NEW SW-3U

General Coverage Coils

Catalog Number	Range — Meters			List Price Per Pair
30	9.	to	15	$
31	13.5	to	25	
32	23.	to	41	
33	40.	to	70	
34	65.	to	115	
35	115.	to	200	
36	200.	to	360	
37	350.	to	550	
38	500.	to	850	
39	850.	to	1200	
40	1200.	to	1500	
41	1500.	to	2000	
42	2000.	to	3000	

Band Spread Coils

30A —	10 meter	**$**
31A —	20 meter	
33A —	40 meter	
34A —	80 meter	
35A —	160 meter	



The SW-3U Receiver employs a circuit consisting of one R.F. stage transformer coupled to a regenerative detector and one stage of impedance coupled audio. This circuit provides maximum sensitivity and flexibility with the smallest number of tubes and the least auxiliary equipment. The single tuning dial operates a precisely adjusted two gang condenser; the regeneration control is smooth and noiseless, with no backlash or fringe howl; the volume control is calibrated from one to nine in steps corresponding to the R scale.

UNIVERSAL MODEL — The circuit of the SW-3U is arranged for either battery or AC operation without coil substitution or circuit change. Battery operation utilizes two 1N5-G and one 1A5-G tubes. AC operation utilizes two 6J7-G and one 6C5-G tubes; type 5886 AB Powe Unit is recommended.

SW-3U, universal model, without coils, phones, tubes or power supply. **List $**

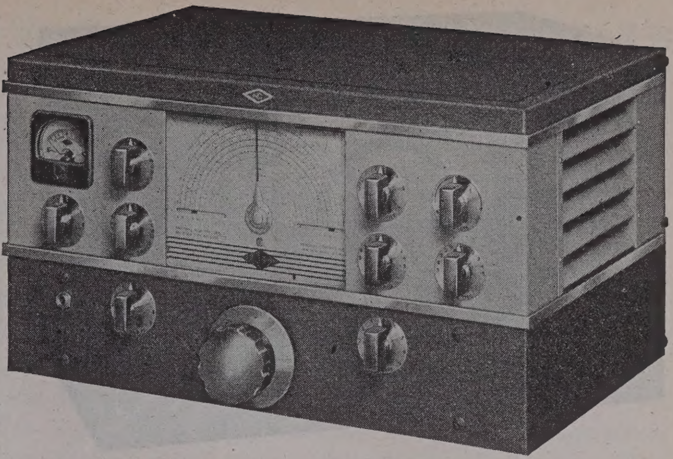
5886-AB, Power Supply, 115 V, 60 cycle, with 80 Rectifier. **List $**

Shipping Weights: Receiver, 17 lbs. — No. 5886 AB pack, 18 lbs.

PRICES LISTED ON PAGES H-17 AND H-18

NATIONAL

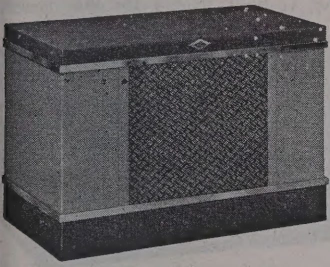
NC-200



The National NC-200 is a new communications receiver having a number of features not previously available. Twelve tubes are used in a highly perfected circuit that includes an extremely effective noise limiter. The crystal filter has an exceptionally wide selectivity range for use on both CW and phone, as well as a phasing circuit that makes rejection ratios as high as 10,000 to 1 available even when the interfering signal is only a few hundred cycles from the desired signal. The AVC holds the audio constant within 2 db for signals from 10 microvolts to 100,000 microvolts. The sensitivity of the NC-200 is particularly high, requiring only 1 microvolt input for 1 watt of audio output on the highest frequencies covered by the receiver. Signal-to-image ratio is better than 30 db at ten meters.

There are ten calibrated coil ranges, each with its own scale on the direct-reading dial. Six of these ranges provide continuous coverage from 490 KC to 30 MC. The remaining four ranges cover the 10, 20, 40 and 80 meter bands, each of which is spread over the major portion of the dial scale. Ranges are selected by a panel control knob. A movable-coil system similar to the NC-100 is used. The inertia-type dial drive has a ratio of about 20 to 1.

All models of the NC-200 are suitable for either AC or battery operation, having both a built-in AC power supply and a special detachable cable and plug for battery connection. Removal of the speaker plug disconnects both plate and screen circuits of the audio power stage thus providing maximum battery economy. The B supply filter and the standby switch are wired to the battery terminals, so that the filter is available for vibrator or dynamotor B supplies.



The ten-inch speaker is housed in a separate cabinet specially designed to harmonize with the trim lines of the receiver. The undistorted output is 8 watts.

All features expected in a fine communication receiver are provided. These include CW oscillator, Signal Strength Meter, B-supply switch, phonograph input jack, etc.

NC-200 TG, Table Model, two tone gray wrinkle, receiver only List $

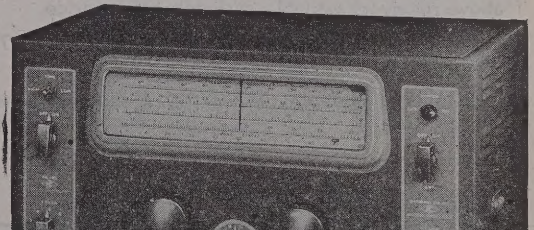
NC-2 TS, Table mounting 10″ P.M. Loud Speaker in cabinet to match NC-200 TG above. List $

NC-200 RG, Rack Model, gray wrinkle 3/16″ aluminum panel, receiver only List $

NC-2 RS, Rack Mounting 10″ P.M. Loud Speaker on 10½″ panel to match NC-200 RG above. List $

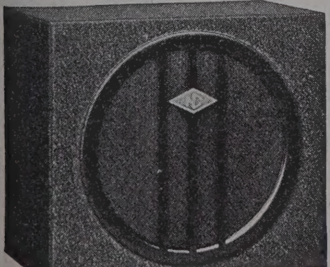
NATIONAL NEW

NC-45



The NC-45 receiver is an eight tube superheterodyne combining capable performance with low price. Features include a series valve noise limiter with automatic threshold control, tone control, CW oscillator, separate RF and AF gain controls, and AVC. Power supplies are self contained except for the battery model which must have an external source of heater and plate power, such as batteries or vibrapack.

A straight-line-frequency condenser is used in conjunction with a separate band spread condenser. This combination, plus the full vision dial calibrated in frequency for each range covered and a separate linear scale for the band spread condenser, makes accurate tuning easy. Both condensers have inertia type drive. A coil switch with silver plated contacts selects the four ranges from 550 KC to 30 MC. Provision is made for either head phone or speaker.



Like all receivers which have no preselector stage, the NC-45 is not entirely free from images. However, where price is an important consideration, the NC-45 will be found a very satisfactory receiver.

NC-45 — Receiver only, complete with tubes, coils covering from 550 KC to 30 MC for 105–130 volts AC or DC operation — gray wrinkle finish. List $

NC-45B — Receiver only, same as above but for battery operation, less batteries. List $

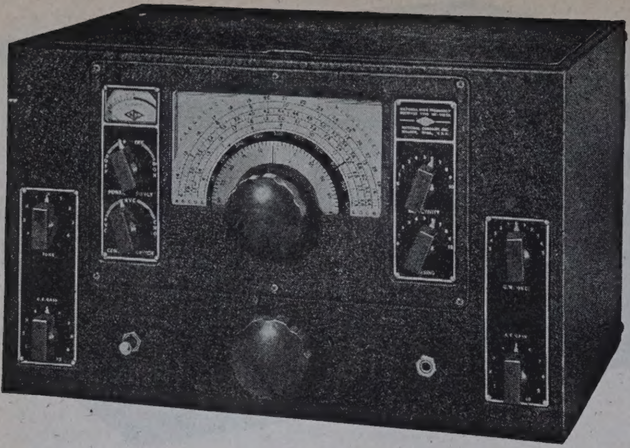
NC-45A — Receiver only, same as above but for 105–130 volts AC only. List $

NC-45TS — Loud Speaker in table mounting cabinet to match above receivers. List $

RRA — Relay Rack Adapters designed for mounting these receivers in a standard relay rack. List $

Shipping Weight: All models, 45 pounds, including speaker.

PRICES LISTED ON PAGES H-17 AND H-18



NATIONAL

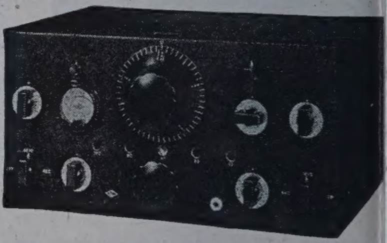
NC-100A NC-101X
NC-100XA NC-101XA

These 11 tube superheterodyne receivers are self-containe (except for the speaker) in a table model cabinet that is readily adapted to relay rack mounting. One stage of R.F. and tw stages of I.F. are used. Low loss insulation and high-Q coil give ample sensitivity and selectivity. Separate R.F. and Audi Gain Controls and a signal strength meter are mounted on the panel. Other controls are tone, CW Oscillator, AVC with amplified and delayed action, a B+ switch, and a phone jack. A self-contained power supply provides all necessary voltages including speaker field excitation. The range changin system is unique in that it combines the mechanical convenience of a coil switch with the electrical efficiency of plug-i coils.

All **NC-100** series receivers are fitted with a noise limiter of truly remarkable effectiveness.

The **NC-100A,** illustrated above, covers the range from 540 KC t 30 MC. The large full vision dial is calibrated directly in megacycle and a separate high speed vernier scale provides high precision i logging. The **NC-100XA** is similar but equipped with a crystal filter.

The **NC-101X,** illustrated below, is built strictly for the amateu bands and covers only the following ranges: 1.7–2.05 MC, 3.5–4.0 MC, 7.0–7.3 MC, 14.0–14.4 MC, and 28.0–30.0 MC. The NC-101X is equipped with a crystal filter, S-meter, and the PW type instrument dial.



The **NC-101XA** has the same features as the NC-101X, except for the direct reading dial and the cabinet, which are similar to the NC-100XA. Prices are the same as for the NC-101X.

The battery models use 9 tubes, and operate on 180 V. B-batteries and 6.3 V. A-batteries. Power output of AC model 10 watts, battery model 2 watts.

NC-100A — complete with tubes. AC model — 10" speaker in cabinet. **List $**

NC-100AB — Battery model — 8" speaker in cabinet. **List $**

NC-100XA — complete with tubes and crystal filter. AC model — 10" speaker. **List $**

NC-100XAB — Battery model — 8" speaker in cabinet. **List $**

NC-100SA — complete with tubes. AC model — 12" Rola G-12 Speaker Chassis only. **List $**

NC-100XSA — complete with tubes and crystal filter. AC model — 12" Rola G-12 Speaker. **List $**

NC-101X or NC-101XA — complete with tubes. AC model — 10" speaker in cabinet. **List $**

NC-101XB or NC-101XAB — Battery model — 8" speaker in cabinet. **List $**

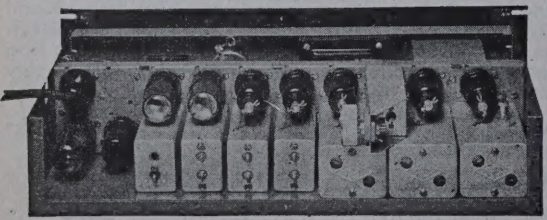
RRA Relay Rack Adapters, designed for mounting any of the above receivers in a standard relay rack. **List, per pair, $**

Note: Cabinets for 12" speaker chassis cannot be supplied.

Note: 230 volt 50 cycle and 115 volt 25 cycle models of above receivers available at slightly higher price.

Shipping weights: NC100A, 70 lbs. — NC100XA, 71 lbs. — NC101X, 71 lbs.

NOTE: *Special models of the NC-100 receiver with bands covering a 200–400 KC range are available. Prices furnished upon request. Battery models can be operated from 686 Vibrapak*



NATIONAL SCR-2

The SCR-2 is an extremely compact crystal controlled receiver for single channel reception mounted on a 3½" relay rack panel. It has two stages of tuned RF amplication, a dual purpose converter with crystal controlled oscillator, two stages of IF amplification, a detector and one audio stage. Auxiliary circuits are AVC, CW oscillator and noise limiter. Nine tubes are used, and the power supply is self-contained.

The SCR-2 is definitely a high performance receiver. Signal-to-noise ratio averages 10 db for an input of 2.5 microvolts. The AVC is flat within 4 db for inputs from 1 microvolt to well over 1 volt. Being crystal controlled, the frequency stability is excellent. The IF channel has a bandspread characteristic to allow for slight transmitter drift, etc.

As the SCR-2 receiver is intended for communication work, the audio channel has been deliberately made flat only from 100 to 1500 cycles, with increasing attenuation of higher frequencies, thus providing good intelligibility with maximum reduction of unwanted signals and noise.

SCR-2 receivers are available for use at fixed frequencies between 100 kcs and 18 mcs. A free booklet describing this receiver will be mailed on request.

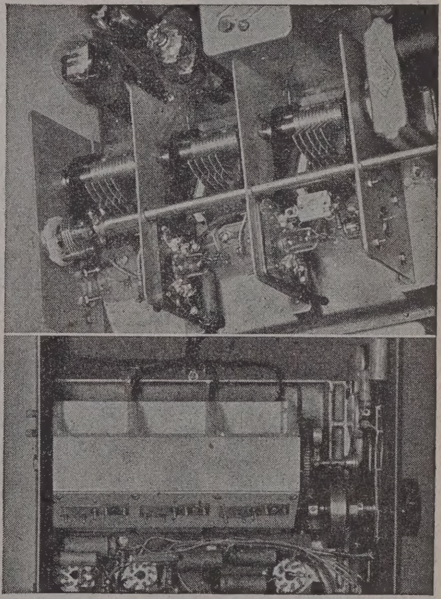
List, less crystal, $

NATIONAL NHU

This specialized communication receiver is a superheterodyne covering the range from 27 to 62 MC in three ranges, each being calibrated on a direct reading full-vision dial.

The circuit uses three acorn tubes (956 RF, 954 First Detector, and 955 Oscillator) followed by three IF stages using 6K7's. A 6C8G Twin Triode is used as an infinite-impedance diode detector, and as a noise limiter. An additional 6C8G acts as first audio and as a carrier-off noise suppressor. Two 6SJ7's are used for the CW oscillator and for the AVC, which is amplified and delayed. The output employs a 6V6G.

The mechanical details of the NHU are unique. One large knob on the panel slides in or out to engage either the tuning condenser or the range-changing system. Inertia-type tuning is used, with a ratio of approximately 70 to 1. The pointer is positively driven by rack and pinion, and moves vertically when the coil range is changed so that it always points to the proper frequency. The coils are mounted radially in a cast aluminum turret which is easily turned into position by the knob on the panel. Directly above the coil turret is the three-gang straight-line-frequency tuning condenser. The RF circuit and tubes are built completely inside the frame of the condenser, thus making a compact assembly with the shortest possible leads from coils to condensers to tubes.

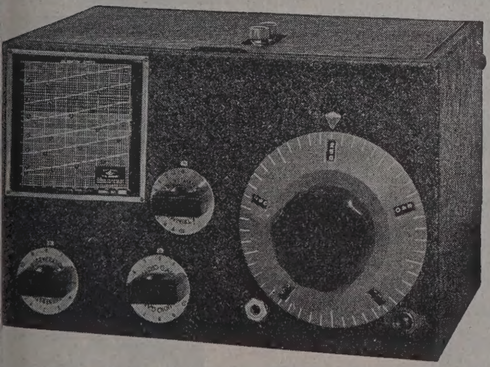


All features and controls commonly found in high-quality communication receivers are incorporated in the NHU, including a wide range crystal filter.

For Battery operation, 135 to 180 volts "B" and 6.3 volts "A" required. Type 5856 power unit is recommended for AC operation.

NHU Receiver, table model, complete with tubes, 8" speaker with cabinet and coils covering from 27 to 62 MC, but without power supply, black finish.	**List $**
NHU-20 Receiver, same as NHU but with 20 Meter Coil.	**List $**
NHU-R, rack model, otherwise same as NHU.	**List $**
NHU-20R, rack model, otherwise same as NHU-20.	**List $**
5856 Power Supply, table model with rectifier, for NHU or NHU-20.	**List $**
SPU-56 Relay rack power supply with rectifier.	**List $**

NHU Shipping Weight, 82 lbs., **5856,** 18 lbs.



110 Receiver and 6 sets of coils, without tubes, speaker or power supply.	**List $**
5886 Power Supply for above receiver, with tube.	**List $**

Shipping Weights: 110 Receiver, 16 lbs. — **5886** AB pack, 17 lbs.

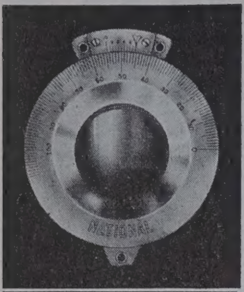
NATIONAL ONE-TEN

Designed chiefly for the experimenter, the One-Ten Receiver fulfills the need of the experimenter for an adequate receiver to cover the field between one and ten meters.

A four tube circuit is used, composed of one tuned R.F. stage, a self-quenching super-regenerative detector, transformer coupled to a first stage of audio which is resistance coupled to the power output stage. Tubes required: 954-R.F.; 955-Detector; 6C5-1st Audio, 6F6-2nd Audio.

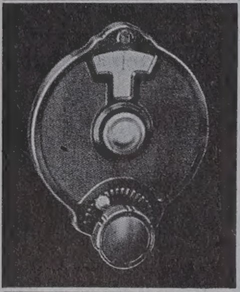
PRICES LISTED ON PAGES H-17 AND H-18

NATIONAL DIALS



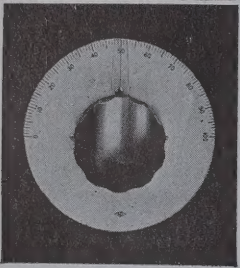
The four-inch N Dial has an engine divided scale and vernier. The vernier is flush with the scale. The planetary drive has a ratio of 5 to 1, and is contained within the body of the dial. 2, 3, 4 or 5 scale. Fits ¼″ shaft. **Specify scale.**

N Dial **List $**



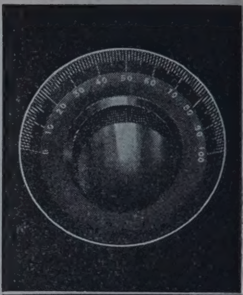
"Velvet Vernier" Dial, Type B, has a compact variable ratio 6 to 1 minimum, 20 to 1 maximum drive that is smooth and trouble free. An illuminator is available. The case is black bakelite. 1 or 5 scale. 4″ diam. Fits ¼″ shaft. **Specify scale.**

B Dial **List $**
Illuminator, extra **List $**



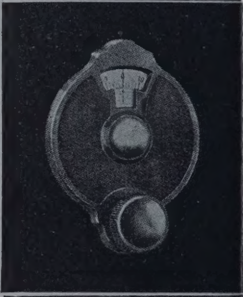
The new National Dial Type AL has a transparent index pointer travelling over an accurately graduated dial 5″ in diameter. The drive is through a Type A mechanism with 5 to 1 ratio. Fits ¼″ shaft. **Scale 3 only.**

AL Dial **List $**



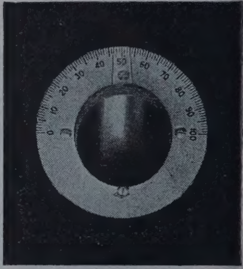
The original black bakelite "Velvet Vernier" Dial, Type A, is still an unchallenged favorite for general purpose use. The planetary drive has a ratio of 5 to 1. In 4 inch diameter with 2, 4 or 5 scale, and in 3⅜ inch diameter with 2 scale. Fits ¼″ shaft. **Specify scale.**

A Dial **List $**



The BM Dial is a smaller version of the B Dial (described in the opposite column) for use where space is limited. The drive ratio is fixed. Although small in size, the BM Dial has the same smooth action as the larger units. 1 or 5 scale. 3″ diam. Fits ¼″ shaft. **Specify scale.**

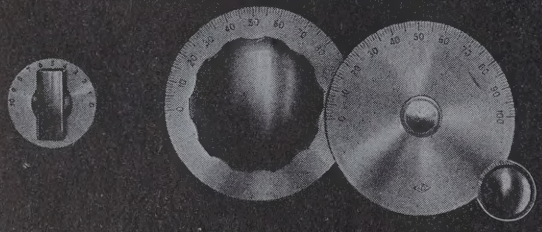
BM Dial **List $**



The new National Dial Type AO is similar to the AL Dial in the opposite column, but is only 3½″ in diameter. It employs the same smooth Type A mechanism, and has a transparent index. Fits ¼″ shaft. **Scale 3 only.**

AO Dial **List $**

INEXPENSIVE DIALS



TYPE R
List $
1⅝″ Dia.
Etched Nickel Silver

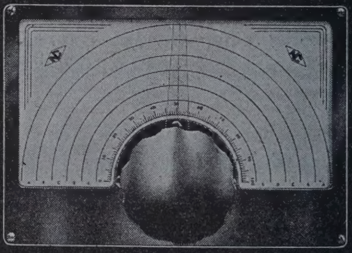
TYPE O
List $
3½″ Dia.

TYPE L
List $
5″ Dia.

TYPE K
List $
3½″ Dia.

TYPE M
List $
5″ Dia.

NEW! FOR INDIVIDUAL CALIBRATING

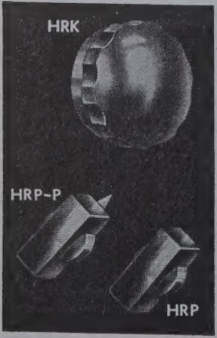


For experimenters who "build their own" and desire direct calibration. Fine for Freq. Monitors and ECO's.

- **Dial bezel size 5″ x 7¼″**
- **Five blank scales for direct calibration**
- **Employs Velvet Vernier Drive**
- **Easy to mount**

TYPE ACN List $

R Dial takes Scale 3 only but marked 10–0; O, L, K & M dials take Scale 2 only. All Dials fit ¼″ shaft.



KNOBS

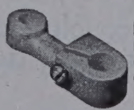
HRK **List $**
Black bakelite knob 2⅜″ diam. Fits ¼″ shaft.

HRP-P **List $**
Black bakelite knob 1¼ inch long and ½ inch wide and fits ¼ inch shaft. Equipped with pointer.

HRP **List $**
The Type HRP knob has no pointer, but is otherwise the same as the knob above.

DIAL SCALES

Scale	Divisions	Rotation	Direction of Condenser Rotation for increase of dial reading
1	0-100-0	180°	Either
2	0-100	180°	Counter Clockwise
3	100-0	180°	Clockwise
4	150-0	270°	Clockwise
5	200-0	360°	Clockwise
6	0-150	270°	Counter Clockwise



ROTOR SHAFT LOCK

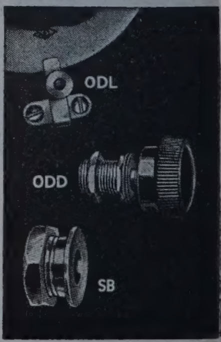
RSL **List $**
Designed to fit TMA, TMC or similar condensers, this clamp provides a convenient and secure rotor lock. Fits ¼″ shaft.

ACCESSORIES

ODL **List $**
A locking device which clamps the rim of O, K, L and M Dials. Brass, nickel plated.

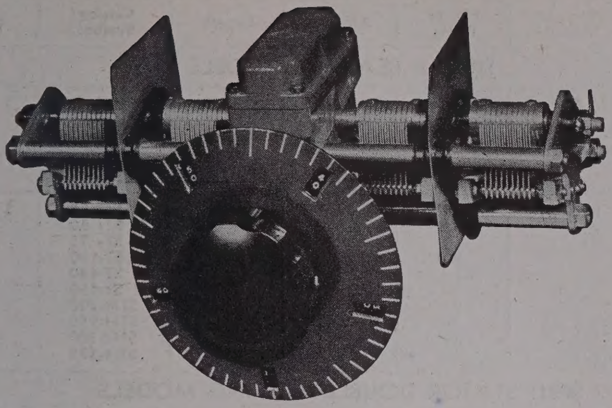
ODD **List $**
This vernier drive unit may be used with O, K, L, M or other plain dials.

SB **List $**
A nickel plated brass bushing ½″ dia., hole fits ¼″ shaft.



PRICES LISTED ON PAGES H-17 AND H-18

NATIONAL PRECISION CONDENSERS



The Micrometer dial reads direct to one part in 500. Division lines are approximately ¼″ apart. The dial revolves ten times in covering the tuning range, and the numbers visible through the small windows change every revolution to give consecutive numbering by tens from 0 to 500. The condenser is of extremely rigid construction, with four bearings on the rotor shaft. The drive, at the mid-point of the rotor, is through an enclosed preloaded worm gear with 20 to 1 ratio. Each rotor is individually insulated from the frame, and each has its own individual rotor contact, of the multi-fingered brush type. Plate shape is straight-line-frequency when the frequency range is 2:1. Stator insulation is Steatite.

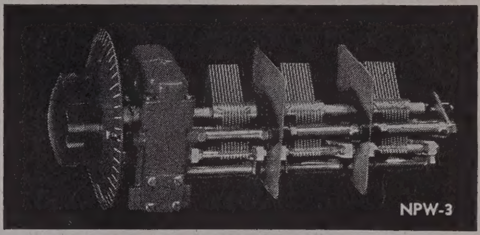
PW Type Condensers are available in 2, 3 or 4 sections, in either 160 or 225 mmf per section. Larger capacities cannot be supplied.

A single-section PW condenser with grounded rotor is supplied in capacities of 150, 200, 350 and 500 mmf, single spaced, and capacities up to 125 mmf, double spaced.

PW condensers are all with rotor shaft parallel to the panel.

PW-1R, Single Section right	**List $**
PW-1L, Single Section left	**List $**
PW-2R, Double Section right	**List $**
PW-2L, Double Section left	**List $**
PW-2S, Single Section right and left	**List $**
PW-3R, Double Section right; single left	**List $**
PW-3L, Double Section left; single right	**List $**
PW-4, Double Section right and left	**List $**

NOTE: Specify desired capacity per section

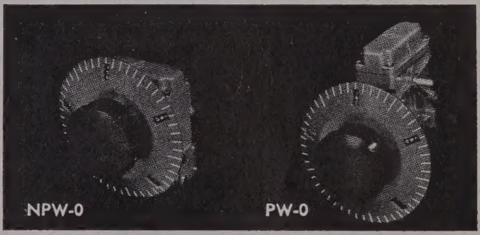


NPW MODELS

NPW condensers are similar to PW models, except that the rotor shaft is perpendicular to the panel. They were originally designed for use in the NC-100. Prices include micrometer dial.

NPW-3, Three sections, each 225 mmf. **List $**

NPW-X, Three sections, each 25 mmf. **List $**



DRIVE UNITS

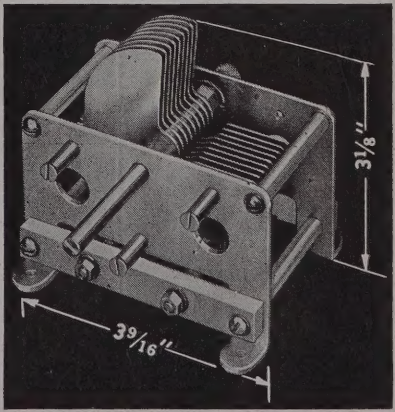
Two drive units are available, each with micrometer dial and gear drive. The Type PW-0 uses parts from the PW condenser, and the drive shaft is parallel to the panel. Two Type TX-9 couplings are supplied. The NPW-0 uses parts from the NPW condenser, with the drive shaft perpendicular to the panel. One Type TX-9 coupling is furnished.

PW-0	**List $**
NPW-0	**List $**

NATIONAL GENERAL PURPOSE CONDENSERS

Capacity	Minimum Capacity	No. of Plates	Length	Catalog Symbol	List
150 Mmf.	9	9	4″	**EMC-150**	**$**
250	11	15	2 15/16″	**EMC-250**	
350	12	20	2 15/16″	**EMC-350**	
500	16	29	4 3/8″	**EMC-500**	
1000	22	56	6 3/4″	**EMC-1000**	
SPLIT-STATOR MODEL					
350–350	12–12	20–20	6″	**EMCD-350**	**$**

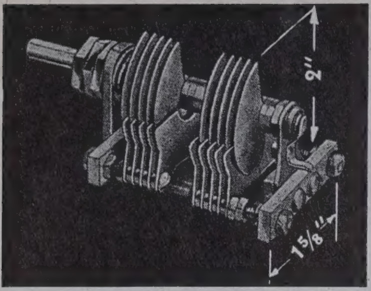
National EMC Condensers are made in large sizes for general purpose uses. They are similar in construction to the TMC Transmitting condenser, and have high efficiency and rugged frames. Insulation is Isolantite, and Peak Voltage Rating is 1000 Volts. Plate shape is Straight-Line Wavelength.



STRAIGHT-LINE WAVELENGTH
180° Rotation

PRICES LISTED ON PAGES H-17 AND H-18

NATIONAL RECEIVING CONDENSERS



TYPE ST

(Type STD Illustrated)

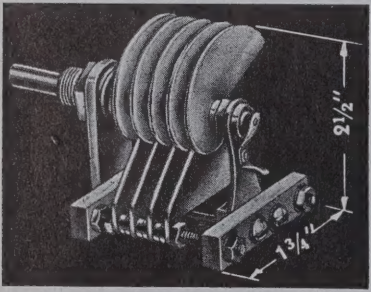
STRAIGHT-LINE WAVELENGTH

180° Rotation

NOTE — Type SS Condensers, having straight-line-capacity plates but otherwise similar to the Type ST, are available on application. Capacities and Prices same as Type ST.

Capacity	Minimum Capacity	No. of Plates	Air Gap	Length	Catalog Symbol	List
SINGLE BEARING MODELS						
15 Mmf.	3 Mmf.	3	.018″	1 5/16″	**STHS-15**	$
25	3.25	4	.018″	1 5/16″	**STHS-25**	
50	3.5	7	.018″	1 5/16″	**STHS-50**	
DOUBLE BEARING MODELS						
35 Mmf.	6 Mmf.	9	.026″	2¼″	**ST- 35**	$
50	7	11	.026″	2¼″	**ST- 50**	
75	8	15	.026″	2¼″	**ST- 75**	
100	9	20	.026″	2¼″	**ST-100**	
140	10	28	.026″	2¾″	**ST-140**	
150	10.5	29	.026″	2¾″	**ST-150**	
200	12.0	27	.018″	2¼″	**STH-200**	
250	13.5	32	.018″	2¾″	**STH-250**	
300	15.0	39	.018″	2¾″	**STH-300**	
335	17.0	43	.018″	2¾″	**STH-335**	
SPLIT STATOR DOUBLE BEARING MODELS						
50–50	5–5	11–11	.026″	2¾″	**STD- 50**	$
100–100	5.5–5.5	14–14	.018″	2¾″	**STHD-100**	

The ST Type condenser has Straight-Line Wavelength plates. All double-bearing models have the front bearing insulated to prevent noise. On special order a shaft extension at each end is available, for ganging. On double-bearing single shaft models, the rotor contact is through a constant impedance pigtail. Isolantite insulation.



TYPE SE

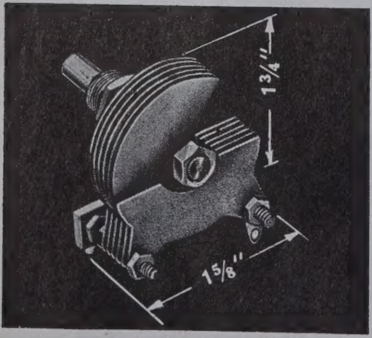
(Type SEU Illustrated)

STRAIGHT-LINE FREQUENCY

270° Rotation

Capacity	Minimum Capacity	No. of Plates	Air Gap	Length	Catalog Symbol	List
15 Mmf.	7 Mmf.	6	.055″	2¼″	**SEU- 15**	$
20	7.5	8	.055″	2¼″	**SEU- 20**	
25	8	9	.055″	2¼″	**SEU- 25**	
50	9	11	.026″	2¼″	**SE- 50**	
75	10	15	.026″	2¼″	**SE- 75**	
100	11.5	20	.026″	2¼″	**SE-100**	
150	13	29	.026″	2¾″	**SE-150**	
200	12	27	.018″	2¼″	**SEH-200**	
250	14	32	.018″	2¾″	**SEH-250**	
300	16	39	.018″	2¾″	**SEH-300**	
335	17	43	.018″	2¾″	**SEH-335**	

TYPE SE — All models have two rotor bearings, the front bearing being insulated to prevent noise. A shaft extension at each end, for ganging, is available on special order. On models with single shaft extension, the rotor contact is through a constant impedance pigtail. The SEU models (illustrated) are suitable for high voltages as their plates are thick polished aluminum with rounded edges. The other SE condensers do not have polished edges on the plates. Isolantite insulation.



EXPERIMENTER

STRAIGHT-LINE CAPACITY

180° Rotation

Capacity	Minimum Capacity	Length	Air Gap	No. of Plates	Catalog Symbol	List
15 Mmf.	3.5	1 5/16″	.045″	5	**EX-15**	$
25	3.75	1 5/16″	.045″	7	**EX-25**	
35	3.75	1 5/16″	.045″	10	**EX-35**	
50	4	1 5/16″	.017″	6	**EX-50**	
100	4.75	1 5/16″	.017″	12	**EX-100**	
140	5.5	1 5/16″	.017″	15	**EX-140**	

The National "Experimenter" Type Condensers are low-priced models suitable for general experimental work. They are of all-brass construction. The rotor has only one bearing. Plates can be removed without difficulty if desired. Bakelite insulation.

PRICES LISTED ON PAGES H-17 AND H-18

NATIONAL MINIATURE CONDENSERS

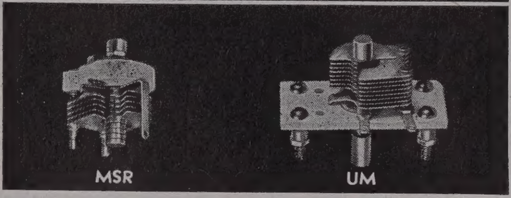
USR — *See table* — Type USR condensers are small, compact, low-loss units. Their soldered construction makes them particularly suitable for applications where vibration is present. Adjustment is made with a screwdriver. Steatite base.

USE — *See table* — Type USE condensers are similar to Type USR, but are provided with a 1/4" diameter shaft extension at each end.

USL — *See table* — Type USL condensers are similar to Type USR, but are provided with a rotor shaft lock, so that the rotor can be clamped at any setting.

MSR, MSE, MSL — *See table* — Condensers of the MS series are similar in appearance to the US series described above, but they differ in making use of plates which are the same as those of the UM condenser. This and other small changes results in a more robust and rigid assembly. Other details of the MSR, MSE, and MSL are the same as the USR, USE, and USL respectively.

M30
USR
W100



Capacity	Catalog Symbol			List
25 mmf. 50 75 100	**USR-25** **USR-50** **USR-75** **USR-100**	**USE-25** **USE-50** **USE-75** **USE-100**	**USL-25** **USL-50** **USL-75** **USL-100**	$

Capacity	Catalog Symbol			List
25 mmf. 50 75 100	**MSR-25** **MSR-50** **MSR-75** **MSR-100**	**MSE-25** **MSE-50** **MSE-75** **MSE-100**	**MSL-25** **MSL-50** **MSL-75** **MSL-100**	$

Capacity	Minimum Capacity	No. of Plates	Air Gap	Catalog Symbol	List
15 mmf.	1.5	6	.017"	**UM-15**	$
35	2.5	12	.017"	**UM-35**	
50	3	16	.017"	**UM-50**	
75	3.5	22	.017"	**UM-75**	
100	4.5	28	.017"	**UM-100**	
25	3.4	14	.042"	**UMA-25**	
BALANCED STATOR MODEL					
25	2	4-4-4	.017"	**UMB-25**	$

M-30 List $

Type **M-30** is a small adjustable mica condenser with a maximum capacity of 30 mmf. Dimensions 13/16" x 9/16" x 1/2". Isolantite base.

W-75, 75 mmf. List $
W-100, 100 mmf. List $

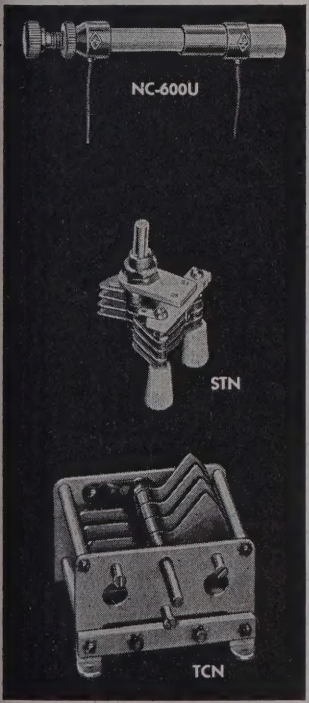
Small padding condensers having very low temperature coefficient. Mounted in an aluminum shield 1 1/4" in diameter.

The **UM CONDENSER** is designed for ultra high frequency use and is small enough for convenient mounting in PB-10 and RO shield cans. They are particularly useful for tuning receivers, transmitters, and exciters. Shaft extensions at each end of the rotor permit easy ganging when used with one of our flexible couplings. The UMB-25 Condenser is a balanced stator model, two stators act on a single rotor. The UM can be mounted by the angle foot supplied or by bolts and spacers. See table for sizes.

Dimensions: Base 1" x 2 1/4", Mounting holes 5/8" x 1 23/32", Axial length 2 1/8" overall.

Plates: Straight line capacity, 180° rotation.

NATIONAL NEUTRALIZING CONDENSERS



NC-600U List $
With standoff insulator

NC-600 List $
Without insulator

The NC-600 and NC-600U are for neutralizing low power beam tubes requiring from .5 to 4 mmf., and 1500 max. total volts such as the 6L6. The NC-600U is supplied with a GS-10 standoff insulator screwed on one end, which may be removed for pigtail mounting.

STN List $
The Type STN neutralizing condenser has a maximum capacity of 18 mmf. (3000 V), making it suitable for such tubes as the 10 and 45. It is supplied with two standoff insulators.

TCN List $
The Type TCN neutralizing condenser is similar to the TMC. It has a maximum capacity of 25 mmf. (6000 V), making it suitable for the 203A, 211 and similar tubes.

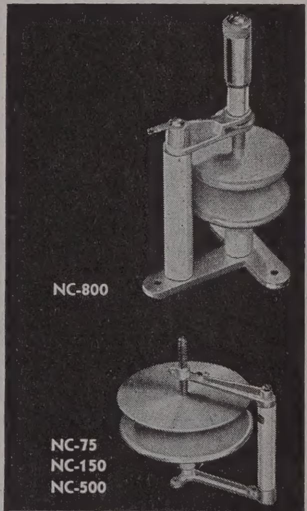
NC-800 List $
The NC-800 disk-type neutralizing condenser is suitable for the RCA-800, 35T, HK-54 and similar tubes. It is equipped with a micrometer thimble and clamp. The chart below gives capacity and air gap for different settings.

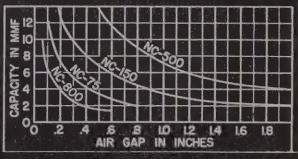
NC-75 List $
For 75T, 808, 811, 812 & similar tubes.

NC-150 List $
For HK354, RK36, 300T, 852, etc.

NC-500 List $
For WE-251, 450TH, 450TL, 750TL, etc.

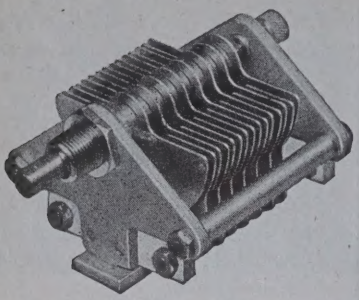
These larger desk type neutralizing condensers are for the higher powered tubes. Disks are aluminum, insulation steatite.

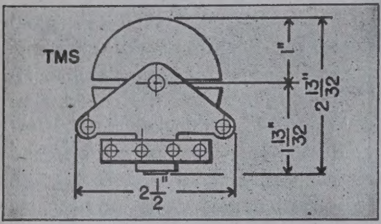




PRICES LISTED ON PAGES H-17 AND H-18

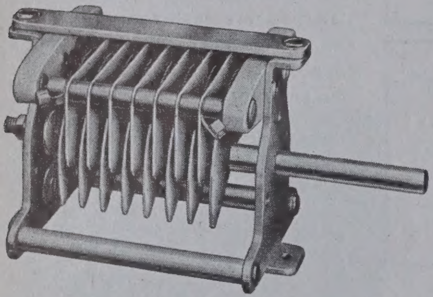
NATIONAL TRANSMITTING CONDENSERS

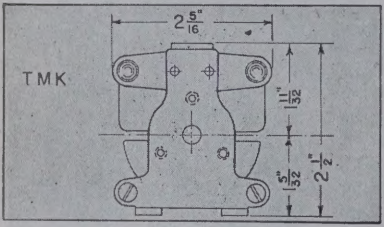




Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
100 Mmf.	9.5	3"	.026"	1000v.	9	**TMS-100**	$
150	11	3"	.026"	1000v.	14	**TMS-150**	
250	13.5	3"	.026"	1000v.	22	**TMS-250**	
300	15	3"	.026"	1000v.	27	**TMS-300**	
35	8	3"	.065"	2000v.	7	**TMSA-35**	
50	11	3"	.065"	2000v.	11	**TMSA-50**	
DOUBLE STATOR MODELS							
50–50 Mmf.	6–6	3"	.026"	1000v.	5–5	**TMS-50D**	$
100–100	7–7	3"	.026"	1000v.	9–9	**TMS-100D**	
50–50	10.5–10.5	3"	.065"	2000v.	11–11	**TMSA-50D**	

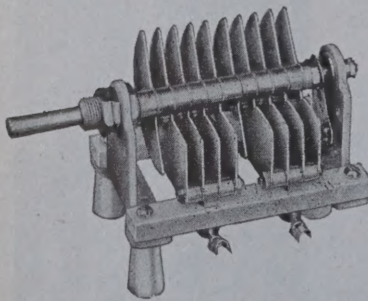
Type TMS is a condenser designed for transmitter use in low power stages. It is compact, rigid, and dependable. Provision has been made for mounting either on the panel, on the chassis, or on two stand-off insulators. Insulation is Isolantite. Voltage ratings listed are conservative.

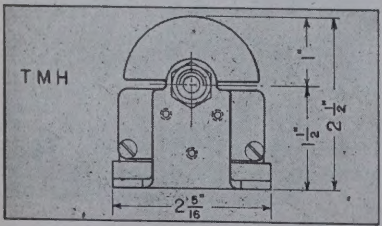




Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
35 Mmf.	7.5	2 7/32"	.047"	1500	7	**TMK-35**	$
50	8	2 3/8"	.047"	1500	9	**TMK-50**	
75	9	2 11/16"	.047"	1500	13	**TMK-75**	
100	10	3"	.047"	1500	17	**TMK-100**	
150	10.5	3 5/8"	.047"	1500	25	**TMK-150**	
200	11	4 1/4"	.047"	1500	33	**TMK-200**	
250	11.5	4 7/8"	.047"	1500	41	**TMK-250**	
DOUBLE STATOR MODELS							
35–35 Mmf.	7.5–7.5	3"	.047"	1500	7–7	**TMK-35D**	$
50–50	8–8	3 5/8"	.047"	1500	9–9	**TMK-50D**	
100–100	10–10	4 1/4"	.047"	1500	17–17	**TMK-100D**	
Swivel Mounting Hardware for AR 16 Coils						**SMH**	$

Type TMK is a new condenser for exciters and low power transmitters. Special provision has been made for mounting AR-16 coils in a swivel plug-in mount on either the top or rear of the condenser, (see page 8). For panel or stand-off mounting. Isolantite insulation.



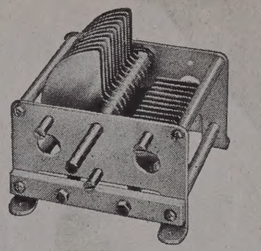


Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
50 Mmf.	9	3 3/4"	.085"	3500	15	**TMH-50**	$
75	11	3 3/4"	.085"	3500	19	**TMH-75**	
100	12.5	5 1/8"	.085"	3500	25	**TMH-100**	
150	18	6 1/2"	.085"	3500	37	**TMH-150**	
35	11	5 1/8"	.180"	6500	17	**TMH-35A**	
DOUBLE STATOR MODELS							
35–35 Mmf.	6–6	3 3/4"	.085"	3500	9–9	**TMH-35D**	$
50–50	8–8	5 1/8"	.085"	3500	13–13	**TMH-50D**	
75–75	11–11	6 1/2"	.085"	3500	19–19	**TMH-75D**	

Type TMH features very compact construction, excellent power factor, and aluminum plates .040" thick with polished edges. It mounts on the panel or on removable standoff insulators. Isolantite insulators have long leakage path. Standoffs included in listed price.

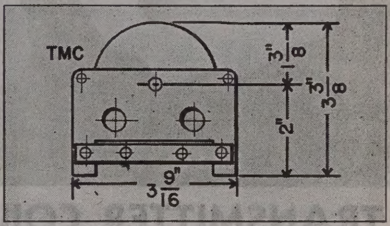
PRICES LISTED ON PAGES H-17 AND H-18

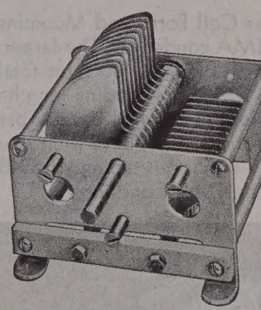
NATIONAL TRANSMITTING CONDENSERS



Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
50 Mmf.	10	3"	.077"	3000v.	7	TMC-50	$
100	13	3½"	.077"	3000v.	13	TMC-100	
150	17	4⅝"	.077"	3000v.	21	TMC-150	
250	23	6"	.077"	3000v.	32	TMC-250	
300	25	6¾"	.077"	3000v.	39	TMC-300	
DOUBLE STATOR MODELS							
50-50 Mmf.	9-9	4⅝"	.077"	3000v.	7-7	TMC-50D	$
100-100	11-11	6¾"	.077"	3000v.	13-13	TMC-100D	
200-200	18.5-18.5	9¼"	.077"	3000v.	25-25	TMC-200D	

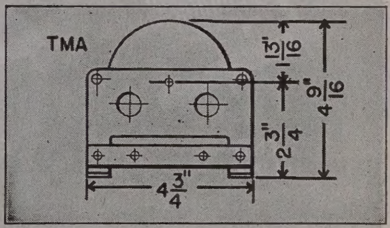
TMC is designed for use in the power stages of transmitters where peak voltages do not exceed 3000. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are aluminum with buffed edges. Insulation is Isolantite. The stator in the split stator models is supported at both ends.

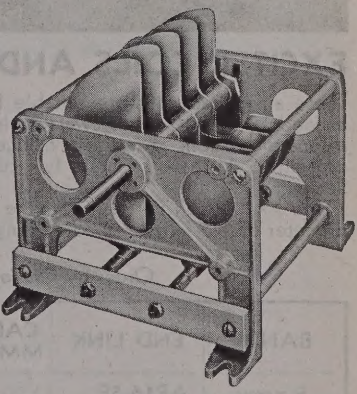




Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
300 Mmf.	19.5	4 9/16"	.077"	3000v.	23	TMA-300	$
50	15	4 9/16"	.171"	6000v.	7	TMA-50A	
100	19.5	6⅞"	.171"	6000v.	15	TMA-100A	
150	22.5	6⅞"	.171"	6000v.	21	TMA-150A	
230	33	9 5/16"	.171"	6000v.	33	TMA-230A	
100	30	9¼"	.265"	9000v.	23	TMA-100B	
150	40.5	12½"	.265"	9000v.	33	TMA-150B	
50	21	7⅛"	.359"	12000v.	13	TMA-50C	
100	37.5	12⅞"	.359"	12000v.	25	TMA-100C	
DOUBLE STATOR MODELS							
200-200 Mmf.	15-15	6⅞"	.077"	3000v.	16-16	TMA-200D	$
50-50	12.5-12.5	6⅞"	.171"	6000v.	8-8	TMA-50DA	
100-100	17-17	9 5/16"	.171"	6000v.	14-14	TMA-100DA	
60-60	19.5-19.5	12½"	.265"	9000v.	15-15	TMA-60DB	
40-40	18-18	12⅞"	.359"	12000v.	11-11	TMA-40DC	

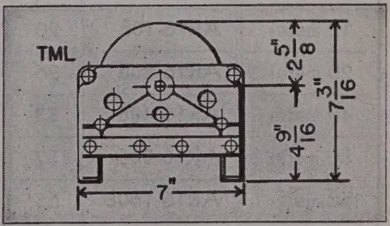
TMA is a larger model of the popular TMC. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are of heavy aluminum with rounded and buffed edges. Insulation is Isolantite, located outside of the concentrated field.



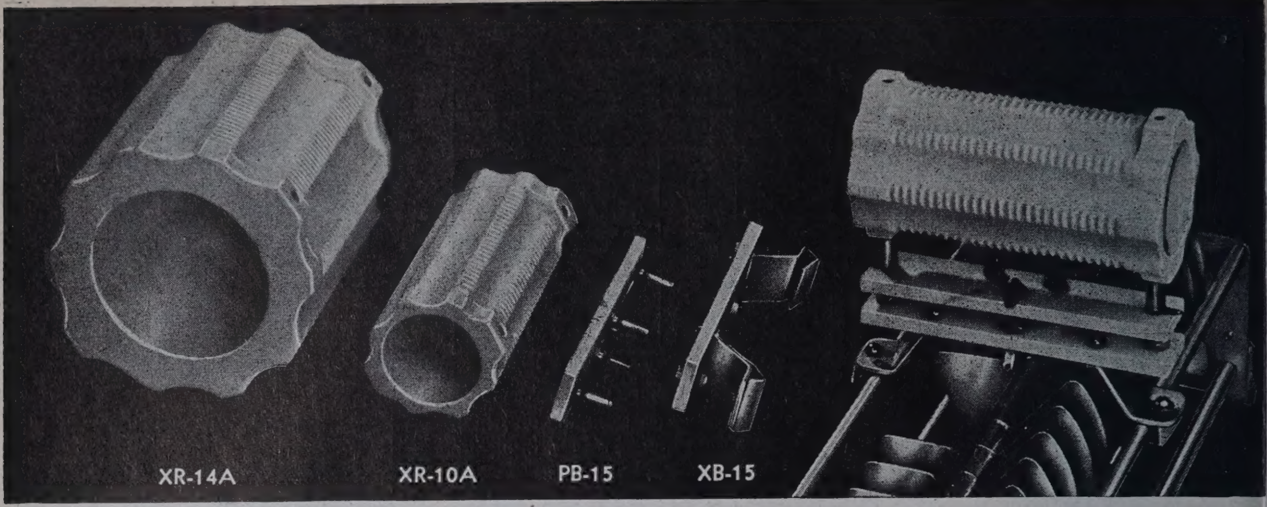


Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No.of Plates	Catalog Symbol	List
SINGLE STATOR MODELS							
75 Mmf.	25	18 1/16"	.719"	20,000v.	17	TML-75E	$
150	60	18 1/16"	.469"	15,000v.	27	TML-150D	
100	45	13⅝"	.469"	15,000v.	19	TML-100D	
50	22	8 5/16"	.469"	15,000v.	9	TML-50D	
245	54	18 1/16"	.344"	10,000v.	35	TML-245B+	
150	45	13⅝"	.344"	10,000v.	21	TML-150B+	
100	32	10 15/16"	.344"	10,000v.	15	TML-100B+	
75	23.5	8 5/16"	.344"	10,000v.	11	TML-75B+	
500	55	18 1/16"	.219"	7,500v.	49	TML-500A+	
350	45	13⅝"	.219"	7,500v.	33	TML-350A+	
250	35	10 15/16"	.219"	7,500v.	25	TML-250A+	
DOUBLE STATOR MODELS							
30-30 Mmf.	12-12	18 1/16"	.719"	20,000v.	7-7	TML-30DE	$
60-60	26-26	18 1/16"	.469"	15,000v.	11-11	TML-60DD	
100-100	27-27	18 1/16"	.344"	10,000v.	15-15	TML-100DB+	
60-60	20-20	13⅝"	.344"	10,000v.	9-9	TML-60DB+	
200-200	30-30	18 1/16"	.219"	7,500v.	21-21	TML-200DA+	
100-100	17-17	10 15/16"	.219"	7,500v.	11-11	TML-100DA+	

TML condenser is a 1 KW job throughout. Isolantite insulators, specially treated against moisture absorption, prevent flashovers. A large self-cleaning rotor contact provides high current capacity. Thick capacitor plates, with accurately rounded and polished edges, provide high voltage ratings. Sturdy cast aluminum end frames and dural tie bars permit an unusually rigid structure. Precision end bearings insure smooth turning and permanent alignment of the rotor. End frames are arranged for panel, chassis or stand-off mountings.



PRICES LISTED ON PAGES H-17 AND H-18



TRANSMITTER COIL FORMS

The Transmitter Coil Forms and Mounting are designed as a group, and mount conveniently on the bars of a TMA condenser. The larger coil form, Type XR-14A, has a winding diameter of 5″, a winding length of 3¾″ (30 turns total) and is intended for the 80 meter band. The smaller form, Type XR-10A, has a winding length of 3¾″ and a winding diameter of 2½″ (26 turns total). It is intended for the 20 and 40 meter bands.

Either coil form fits the PB-15 plug. For higher frequencies, the plug may be used with a self-supporting coil of copper tubing. The XB-15 Socket may be mounted on breadboards or chassis, as well as on the TMA Condenser.

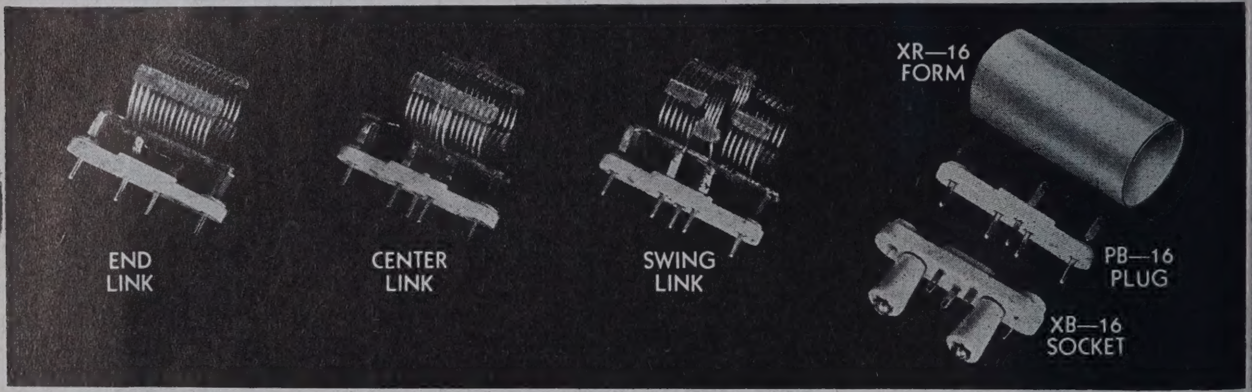
SINGLE UNITS

XR-10A, Coil Form only	**List $**
XR-14A, Coil Form only	**List $**
PB-15, Plug only	**List $**
XB-15, Socket only	**List $**

ASSEMBLIES

UR-10A, Assembly (including small Coil Form, Plug and Socket) **List $**

UR-14A, Assembly (including large Coil Form, Plug and Socket) **List $**



EXCITER COILS AND FORMS — TYPE AR-16 (Air Spaced)

These air-spaced coils are suitable for use in stages where the plate input does not exceed 50 watts and are available in the sizes tabulated below. Capacities listed will resonate the coils at the low frequency end of the band and include all stray circuit capacities. All have separate link coupling coils and all fit the PB-16 Plug and XB-16 Socket.

The XR-16 Coil Form also fits the PB-16 Plug and XB-16 Socket. It has a winding diameter of 1¼″ and a winding length of 1¾″.

XR-16, Coil Form only	**List $**
PB-16, Plug-in Base only	**List $**
XB-16, Plug-in Socket only	**List $**

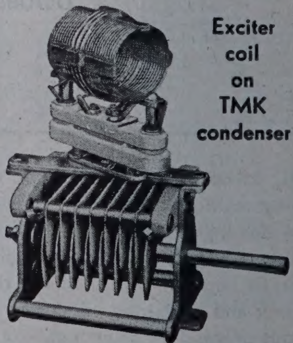
AR-16 Coils — Any type (see table). Including PB-16 Plug as illustrated. Each, **List $**

ASSEMBLIES

UR-16, Assembly (including Coil Form, Plug and Socket) **List $**

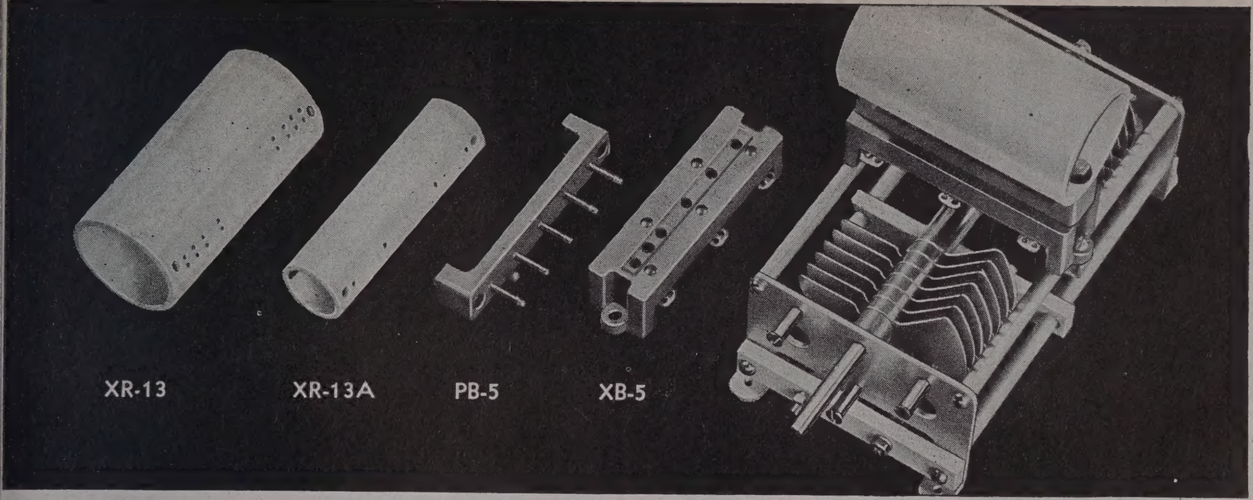
Order by Catalog Symbol Shown in This Table

BAND	END LINK	CAP MMF	CENTER LINK	CAP MMF	SWINGING LINK	CAP MMF
5 meter	AR16-5E	20	AR16-5C	20	——	—
10 meter	AR16-10E	20	AR16-10C	20	AR16-10S	25
20 meter	AR16-20E	26	AR16-20C	26	AR16-20S	40
40 meter	AR16-40E	33	AR16-40C	33	AR16-40S	55
80 meter	AR16-80E	37	AR16-80C	37	AR16-80S	60
160 meter	AR16-160E	65	AR16-160C	65	——	—



Exciter coil on TMK condenser

PRICES LISTED ON PAGES H-17 AND H-18



BUFFER COIL FORMS

National Buffer Coil Forms are designed to mount directly on the tie bars of a TMC condenser using the PB-5 Plug and XB-5 Socket. Plug and Socket are of molded R-39.

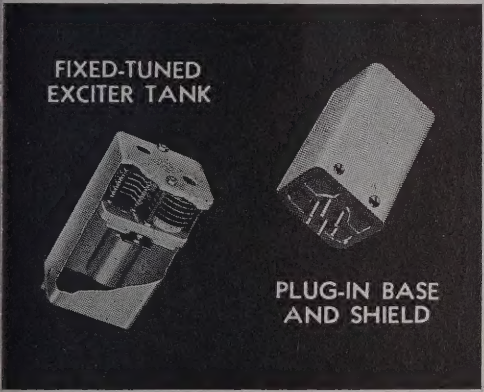
The two coil forms are of Isolantite, left unglazed to provide a tooth for coil dope. The larger form, Type XR-13, is 1¾″ in diameter and has a winding length of 2¾″. The smaller form, Type XR-13A, is 1″ in diameter and provides a winding length of 2¾″. Both forms have holes for mounting and for leads.

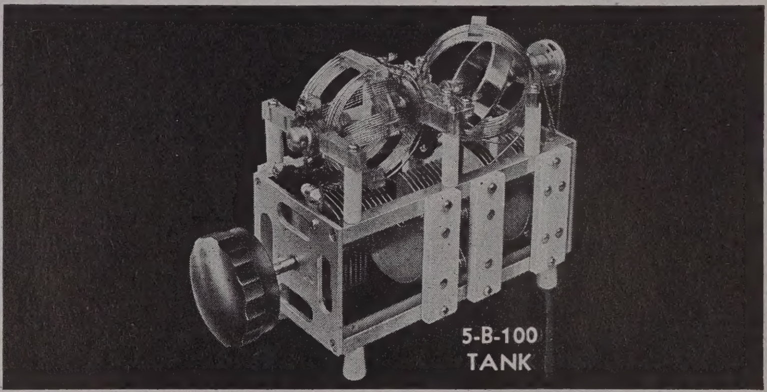
SINGLE UNITS

XR-13, Coil Form only	**List $**
XR-13A, Coil Form only	**List $**
PB-5, Plug only	**List $**
XB-5, Socket only	**List $**

ASSEMBLIES

UR-13A, Assembly (including small Coil Form, Plug and Socket)	**List $**
UR-13, Assembly (including large Coil Form, Plug and Socket)	**List $**





FIXED TUNED EXCITER TANK

Similar in general construction to National I.F. transformers, this unit has two 25 mmf., 2000 volt air condensers and an unwound XR-2 coil form.

FXT, without plug-in base	**List $**
FXTB-5, with 5 prong base	**List $**
FXTB-6, with 6 prong base to fit XC-6C socket	**List $**

PLUG-IN BASE AND SHIELD

The low-loss R-39 base is ideal for mounting condensers and coils when it is desirable to have them shielded and easily removable. Shield can is 2″ x 2⅜″ x 4⅛″. Two models are available: 5 prong standard or 6 prong to fit XC-6C socket.

PB-10-5, 5 Prong Base & Shield	**List $**
PB-10-6, 6 Prong Base & Shield	**List $**
PB-10A-5, 5 Prong Base only	**List $**
PB-10A-6, 6 Prong Base only	**List $**

5–B–100 TANK

The National 5-B-100 is a complete tank circuit (including coils, condenser and R.F. choke), which tunes through five amateur bands with a single dial. The tank replaces the tuning condenser, set of five plug-in coils, plug-in coil socket and R.F. choke, without sacrificing efficiency or space, yet it costs no more.

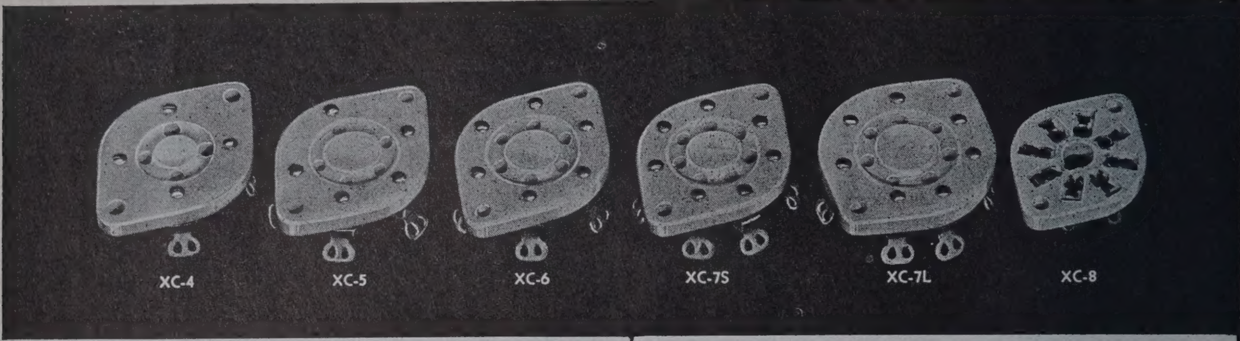
The 5-B-100 is actually more compact than a tuning condenser and mounted plug-in coil for the same power capabilities. In addition to the compactness and wide tuning range advantages of the 5-B-100, the tank provides for the first time a real constant L/C ratio throughout the tuning range. Harmonics from the low-frequency bands are suppressed without sacrifice of efficiency on the high-frequency bands. Constant link loading or capacity coupling may be used.

The 5-B-100 is an ideal plate tank for R.F. amplifiers using such tubes as 35T, 809, 811, 812, RK-11, RK-12, HK-24, HY-30Z, HY-51Z, etc. with input up to 150 watts (1250 volts unmodulated or 750 volts modulated maximum). Also ideal for grid tank of amplifiers up to 2 KW plate input.

Four mounting insulators are supplied on the base. Overall dimensions are 4 inches wide, 6 inches high and 8 inches deep. Shipping weight, 5 lbs. **List $**

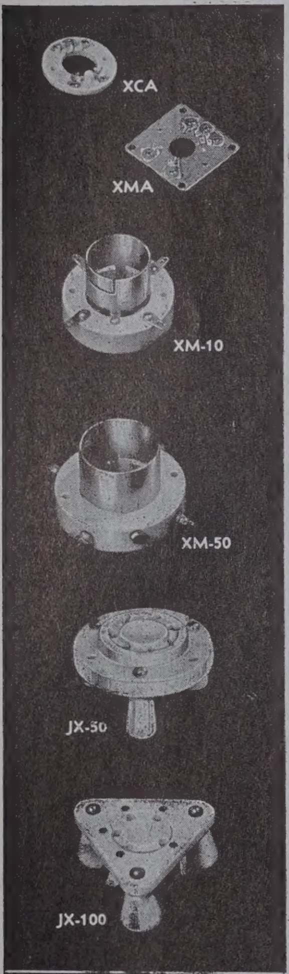
PRICES LISTED ON PAGES H-17 AND H-18

NATIONAL LOW-LOSS SOCKETS AND INSULATORS



XC Series Sockets List $

National wafer sockets have exceptionally good contacts with high current capacity together with low loss Isolantite insulation. All types have a locating groove to make tube insertion easy, with the exception of the Octal socket which has a central locating hole.



XCA List $
A low-loss socket for acorn triodes.

XMA List $
For pentode acorn tubes, this socket has built-in by-pass condensers. The base is a copper plate.

XM-10 List $
A heavy duty metal shell socket for tubes having the UX base.

XM-50 List $
A heavy duty metal shell socket for tubes having the Jumbo 4-pin base ("fifty watters").

JX-50 List $
Without Standoff Insulators

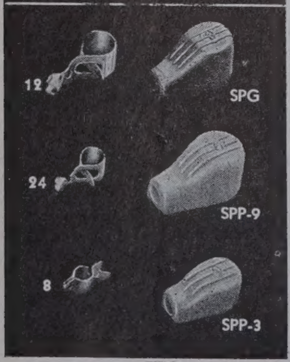
JX-50S List $
With Standoff Insulators

A low-loss wafer socket for the 813 and other tubes having the Giant 7-pin base.

JX-100 List $
Without Standoff Insulators

JX-100S List $
With Standoff Insulators

A low-loss wafer socket for the 803, RK-28 and other tubes using the Giant 5-pin base.



SAFETY GRID & PLATE CAPS

SPP-9 List $
9/16" Cap L. L. ceramic insulation.

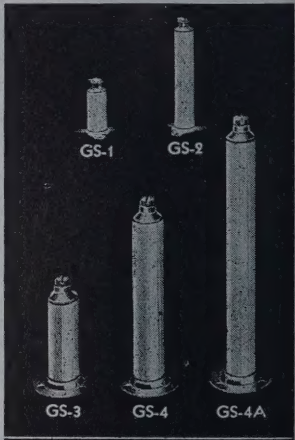
SPP-3 List $
⅜" Cap L. L. ceramic insulation

SPG List $
9/16" Cap, R-39 L. L. insulation.

These offer protection against accidental contact with High Voltage lobe caps.

GRID & PLATE GRIPS

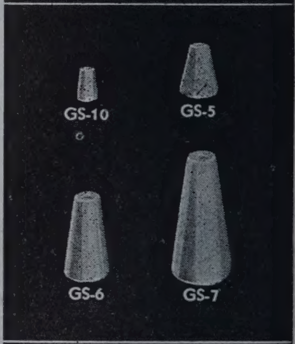
12, for 9/16" Caps List $
24, for ⅜" Caps List $
8, for ¼" Cap List $
12 & **24** suitable for glass tubes
8 is for metal tubes



GS-1, ½" x 1⅜" List $
GS-2, ½" x 2⅞" List $
GS-3, ¾" x 2⅞" List $
GS-4, ¾" x 4⅞" List $
GS-4A, ¾" x 6⅞" List $

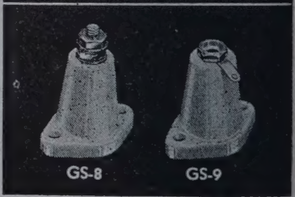
Cylindrical low-loss steatite standoff insulators with nickel plated caps and bases.

GSJ, (not illustrated) **List $**
A special nickel plated jack top threaded to fit the ¾" diameter insulators GS-3, GS-4 & GS-4A.



GS-5, 1¼" **List, each $**
GS-6, 2" **List, each $**
GS-7, 3" **List, each $**
GS-10, ¾", package of 10 **List $**

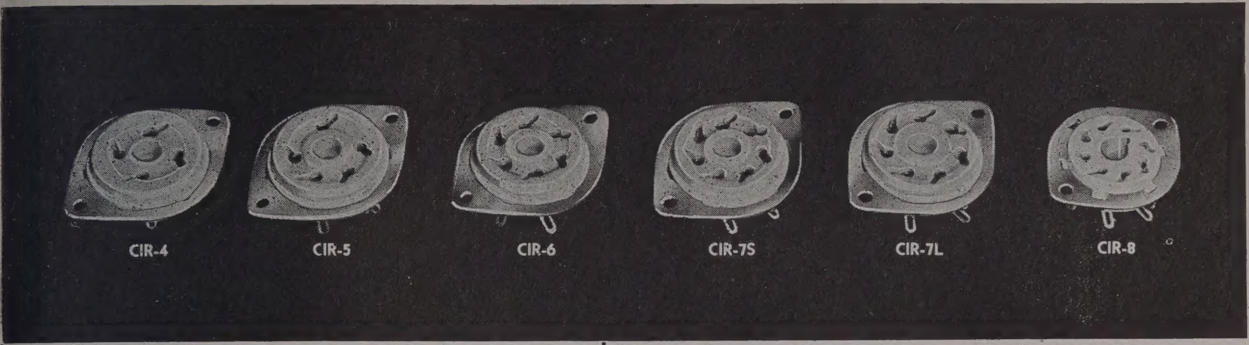
These cone type standoff insulators are of low-loss steatite. They have a tapped hole at each end for mounting.



GS-8, with terminal **List $**
GS-9, with Jack **List $**

These low-loss steatite standoff insulators are also useful as lead-through bushings.

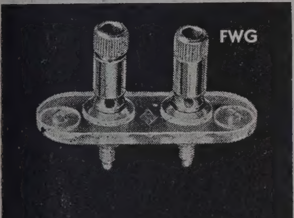
NATIONAL LOW-LOSS SOCKETS AND INSULATORS

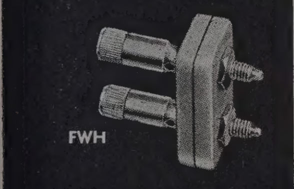


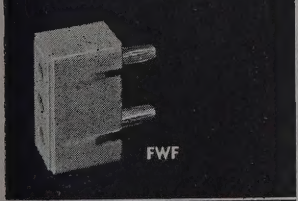
CIR Series Sockets

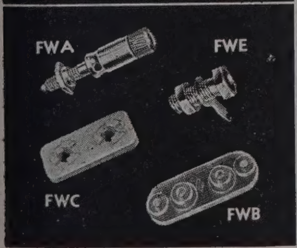
Any Type **List $**

Type CIR Sockets feature low-loss isolantite or steatite insulation, a contact that grips the tube prong for its entire length, and a metal ring for six position mounting. The sockets are supplied with two metal standoffs.









FWG **List $**

A Victron terminal strip for high frequency use. The binding posts take banana plugs at the top, and grip wires through hole at the bottom, simultaneously, if desired.

FWH **List $**

The insulators of this terminal assembly are molded R-39 and have serrated bosses that allow the thinnest panel to be gripped firmly, and yet have ample shoulders. Binding posts same as FWG above.

FWJ **List $**

This assembly uses the same insulators as the FWH above, but has jacks. When used with the FWF plug (below), there is no exposed metal when the plug is in place.

FWF **List $**

This molded R-39 plug has two banana plugs on ¾″ centers and fits FWG, FWH or FWJ above. Leads may be brought out through the top or side.

FWA, Post **List, each $**
Brass Nickel Plated

FWE, Jack **List, each $**
Brass Nickel Plated

FWC, Insulator **List, per pair $**
R-39 Insulation

FWB, Insulator **List, each $**
Polystyrene insulation

AA-3 **List $**

A low-loss steatite spreader for 6 inch line spacing. (600 ohms impedance with No. 12 wire.)

AA-5 **List $**

A low-loss steatite aircraft-type strain insulator.

AA-6 **List $**

A general purpose strain insulator of low-loss steatite.

XS-6 **List, each $**

A low-loss isolantite bushing for ½″ holes.

XP-6 **List, box of ten $**

Same as above but Victron.

TPB **List, per dozen $**

A threaded polystyrene bushing with removable .093 conductor moulded in, ¼″ diam., 32 thread.

XS-7, (⅜″ Hole) **List $**

XS-8, (½″ Hole) **List $**

Steatite bushings. Prices include male and female bushings with metal fittings.

XS-1, (1″ Hole) **List $**

XS-2, (1½″ Hole) **List $**

Prices listed are per pair, including metal fittings. Insulation steatite.

XS-3, (2¾″ Hole) **List $**

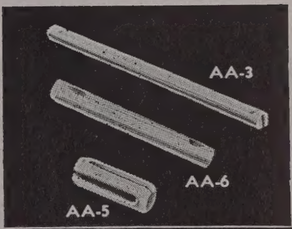
XS-4, (3¾″ Hole) **List $**

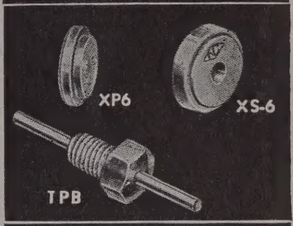
Prices are per pair, including metal fittings. These low-loss steatite bowls are ideal for lead-in purposes at high voltages.

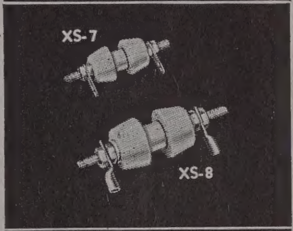
XS-5, Without Fittings **List, each $**

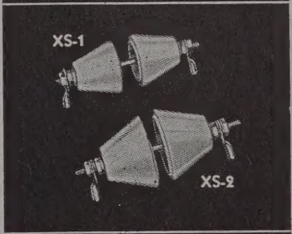
XS-5F, With Fittings **List, per pair $**

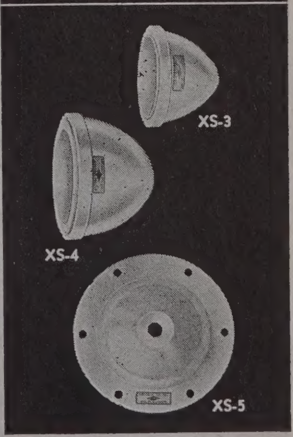
These big low-loss bowls have an extremely long leakage path and a 5¼″ flange for bolting in place. Insulation steatite.











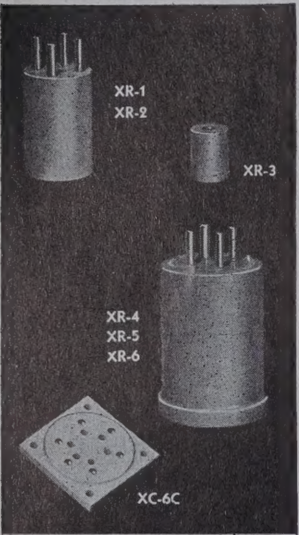
PRICES LISTED ON PAGES H-17 AND H-18

	Width	Height	Depth	List Price
Type C-SW3	9¾″	7″	9″	
Type C-NC100	17¼″	8¾″	11¼″	
Type C-HRO	16¾″	8¾″	10″	
Type C-One-Ten	11″	7″	7¼″	
Type C-SRR	7½″	7″	7½″	

NATIONAL CABINETS

NATIONAL CABINETS

The National Cabinets listed above are the same as those used in National Receivers, except that they are supplied in blank form. They are made of heavy gauge steel, and the paint is unusually well bonded to the metal. Sub-bases and bottom covers are included in the price.

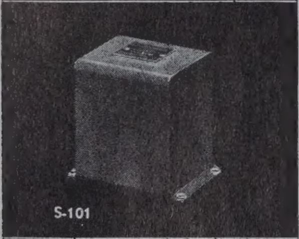


COIL FORMS

XR-1, Four prong, **List $**
XR-2, without prongs **List $**
Molded of R-39, permitting them to be grooved and drilled. Coil form diameter 1″, length 1½″.

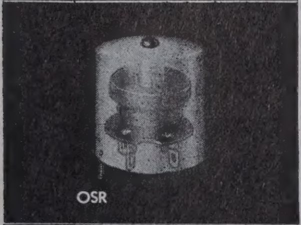
XR-3 **List $**
Molded of R-39. Diameter 9⁄16″, length ¾″. Without prongs.

XR-4, Four prong, **List $**
XR-5, Five prong, **List $**
XR-6, Six prong, **List $**
Molded of R-39, permitting them to be grooved and drilled. Coil form diameter 1½″, length 2¼″. A special socket is required for the six-prong form.
XC-6C, Special six-prong socket for XR-6 Coil Form, **List $**



IMPEDANCE COUPLER

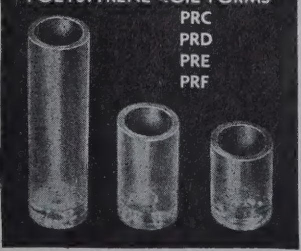
S-101 **List $**
A plate choke, coupling condenser and grid leak sealed in one case, for coupling the output of a regenerative detector to an audio stage. Used in SW-3U.



OSCILLATOR COIL

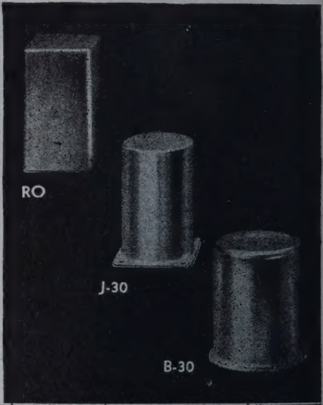
OSR **List $**
A shielded oscillator coil which tunes to 100 KC with .00041 Mfd. Two separate inductances, closely coupled. Excellent for interruption-frequency oscillator in super-regenerative receivers.

POLYSTYRENE COIL FORMS



H. F. COIL FORMS

Symbol	Outside Diameter	Length	List
PRC-1	⅜″	⅜″	$
PRC-2	⅜″	½″	
PRC-3	⅜″	¾″	
PRD-1	½″	½″	
PRD-2	½″	1″	
PRE-1	9⁄16″	¾″	
PRE-2	9⁄16″	1″	
PRE-3	9⁄16″	2″	
PRF-1	¾″	¾″	
PRF-2	¾″	1¼″	



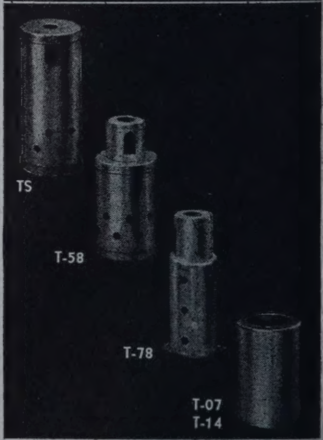
COIL SHIELDS

RO, coil shield **List $**
2″ x 2⅜″ x 4⅛″ high

J30, coil shield **List $**
2½″ dia. x 3¾″ high

B30, coil shield **List $**
3″ dia. x 3¾″ high without mounting base.

B30-B, coil shield **List $**
Same as above, but with mounting base.



TUBE SHIELDS

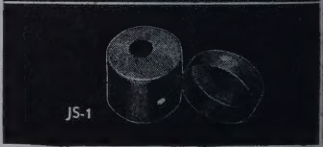
TS, tube shield **List $**
With cap and base.

T58, tube shield **List $**
With cap and base, for 77, 78, etc. tubes.

T78, tube shield **List $**
With cap and base, for 77, 78, etc. tubes.

T14, tube shield **List $**
2⅛″ high, for 814, RK-20, etc.

T07, tube shield **List $**
3″ high, for 807, RK-23, etc.

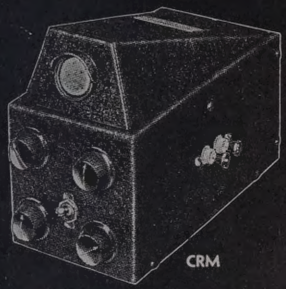


JACK SHIELD

JS-1, Jack shield **List $**
For shielding small standard jacks mounted behind a panel, or on the ends of extension cords.

PRICES LISTED ON PAGES H-17 AND H-18

NATIONAL OSCILLOSCOPES


CRM

CRR

National Oscilloscopes have power supply and input controls built in. A panel switch permits use of the built-in 60-cycle sweep or external audio sweep for securing the familiar trapezoid pattern for modulation measurements.

CRM, less tubes List $

1″ screen, using RCA-913 and 6X5 rectifier. Table model, 4⅛″ x 6⅛″ x 8″.

CRR, less tubes List $

2″ screen, using RCA-902 and 6X5 rectifier. Relay rack mounting on 3½″ panel.

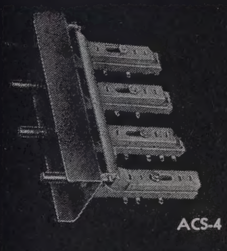
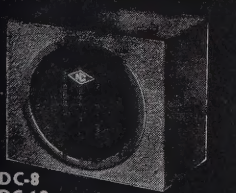

ACS-4

CHART FRAMES

NATIONAL COIL DOPE
COIL DOPE


NDC-8
NDC-10

NDC-2

PUSH SWITCH

ACS-4, Four gang, with trigger bar List $

ACS-1, Single section, less trigger bar List $

The National Interlocking Push Switch has low losses, complete reliability and positive contacts. Insulation is R-39. The silverplated contacts are double pole, double throw.

CHART FRAME

The National Chart Frame is blanked from one piece of metal, and includes a celluloid sheet to cover the chart. Size 2¼″ x 3¼″, with sides ¼″ wide.

Type CFA List $

COIL DOPE

CD-1, ¼ pint can List $

Liquid Polystyrene Cement — is ideal for windings as it will not spoil the properties of the best coil form.

SPEAKER CABINETS

NDC-8 for 8″ speaker List $

NDC-10 for 10″ speaker List $

NDC-2 for 10″ speaker List $

These metal speaker cabinets are acoustically correct. They are lined with acoustic felt, and are of welded construction to eliminate rattles. Finish is black wrinkle on NDC-8 and NDC-10. NDC-2 is finished in two-tone gray to match the NC-200 TG receiver.

I. F. TRANSFORMERS

IFC, Transformer, air core List $

IFCO, Oscillator, air core List $

Air dielectric condensers isolated from each other by an aluminum shield on a moisture proofed ceramic base. Litz wound coils. Shield can 4⅛″ x 2⅜″ x 2″. Either 175 KC or 450–550 KC. *Specify frequency.*

IFD, Diode Transformer, air core List $

Tuned primary and untuned, closely-coupled secondary for full-wave diode rectifiers. For noise silencing circuits, etc. 450–550 KC, air core only.

IFE, Transformer. Same as IFC but iron core, 450–550 KC only List $

NATIONAL HIGH FIDELITY TRF UNITS

Each chassis provides a three-stage RF Amplifier tuned to one station only. A group of separate chassis are usually used in each installation.

RF Transformers tuned both primary and secondary. Coupling adjustable to include 10 KC with less than 1 db variation in the audio range. Sensitivity adjustable from 5 microvolts to one volt. Three models cover ranges of 540–875, 740–1230, and 1100–1700 KC. Mounted on 3½″ relay rack panel.

DLUS, Tuner, wired and tested on ⅛″ steel panel, wrinkle finish, **less tubes,** List $

DLUA, Tuner, same as DLUS but has 3/16″ aluminum panel, wrinkle finish, **less tubes** List $

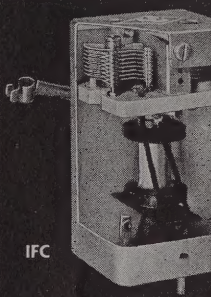
DLCA, Chassis as illustrated with sockets and terminals riveted in place List $

DLPS, Steel ⅛″ panel List $

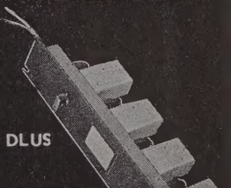
DLPA, Aluminum 3/16″ panel List $

DLT, RF Transformer, set of four required **List, each $**

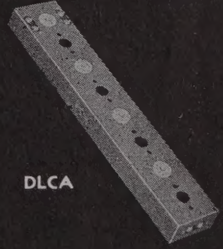
(Specify operating frequency)


IFC

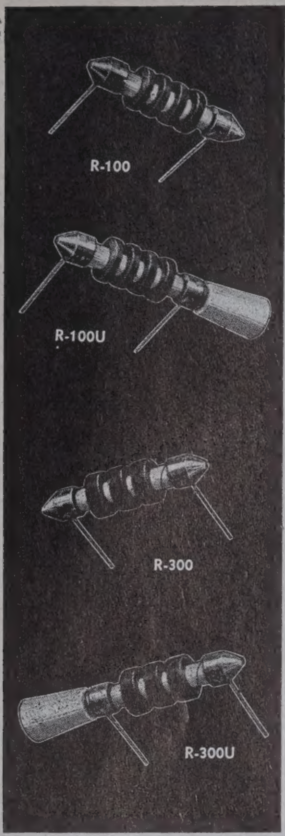
IFD


DLUS

DLT
SET OF
FOUR
REQUIRED


DLCA

NATIONAL RF CHOKES



R-100 List $
Without standoff insulator

R-100U List $
With standoff insulator

R.F. chokes R-100 and R-100U are identical electrically, but the latter is provided with a removable standoff insulator screwed on one end. Both have Isolantite insulation and both have a continuous universal winding in four sections. Inductance 2½ m.h.; distributed capacity 1 mmf.; DC resistance 50 ohms; current rating 125 ma.

R-300 List $
Without insulator

R-300U List $
With insulator

R.F. chokes R-300 and R-300U are similar in size to R-100U but have higher current capacity. The R-300U is provided with a removable standoff insulator screwed on one end. Inductance 1 m.h.; distributed capacity 1 mmf.; DC resistance 10 ohms; current rating 300 ma.

R-152 List $

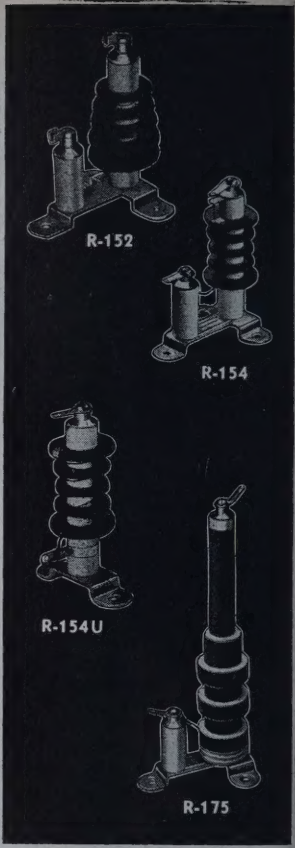
For the 80 and 160 meter bands. Inductance 4 m.h., DC resistance 10 ohms, DC current 600 ma. Coils honeycomb wound on Isolantite core.

R-154 List $
R-154U List $

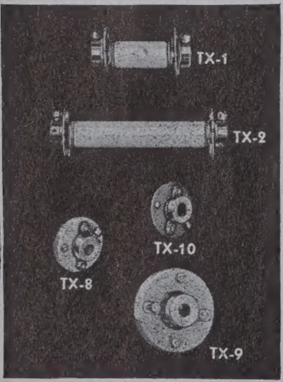
For the 20, 40 and 80 meter bands. Inductance 1 m.h., DC resistance 6 ohms, DC current 600 ma. Coils honeycomb wound on Isolantite core. The R-154U does not have the third mounting foot and the small insulator, but is otherwise the same as R-154. See illustration.

R-175 List $

The R-175 Choke is suitable for parallel-feed as well as series-feed in transmitters with plate supply up to 3000 volts modulated or 4000 volts unmodulated. Unlike conventional chokes, the reactance of the R-175 is high throughout the 10 and 20 meter bands as well as the 40, 80 and 160 meter bands. Inductance 225 μh, distributed capacity 0.6 mmf., DC resistance 6 ohms, DC current 800 ma., voltage breakdown to base 12,500 volts.



NATIONAL SHAFT COUPLINGS



TX-1, Leakage path 1″ List $
TX-2, Leakage path 2½″ List $
Flexible couplings with glazed Isolantite insulation which fit ¼″ shafts.

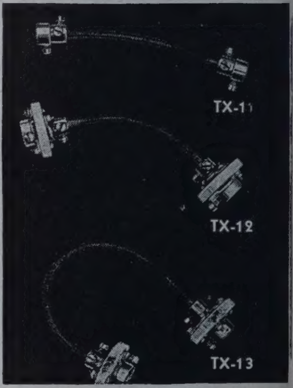
TX-8 List $
A non-flexible rigid coupling with Isolantite insulation. 1″ diam. Fits ¼″ shaft.

TX-9 List $
This small insulated flexible coupling provides high electrical efficiency when used to isolate circuits. Insulation is Steatite. 1⅝″ diam. Fits ¼″ shaft.

TX-10 List $
A very compact insulated coupling free from backlash. Insulation is canvas Bakelite. 1$\frac{1}{16}$″ diam. Fits ¼″ shaft.

TX-11 List $
The flexible shaft of this coupling connects shafts at angles up to 90 degrees, and eliminates misalignment problems. Fits ¼″ shafts. Length 4¼″.

TX-12, Length 4⅝″ List $
TX-13, Length 7⅛″ List $
These couplings use flexible shafting like the TX-11 above, but are also provided with Isolantite insulators at each end.



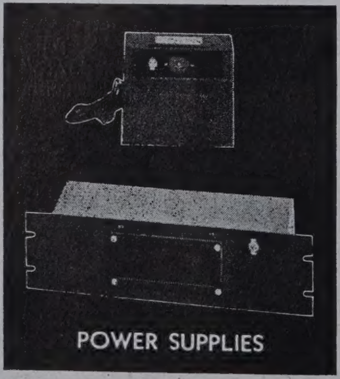
NATIONAL POWER SUPPLIES

National Power Supplies are specially designed for high frequency receivers, and include efficient filters for RF disturbances as well as for hum frequencies. The various types are listed under the receivers with which they are used.

FOR AC OPERATION, 115 volt, 50–60 cycle.
Type 697, Table model, (230 V., 75 MA., 6.3 V. Filaments) with tube List $

5886, Table model, (170 V., 50 MA., 6.3 V. Filaments) with tube List $

SPU, Rack mounted, same electrical characteristics as either 697 or 5886, with tube List $



DPU, Rack mounted, with two separate and complete power supplies same as GRSPU, with tubes List $

FOR AC OPERATION, 230 VOLT OR 25 CYCLE
Supplies for 230 volts or 25 cycles can be supplied at slightly higher prices than the standard models.

FOR BATTERY OPERATION
High voltage power supplies can be supplied for National Receivers for operation from batteries. These units are of the vibrator type.

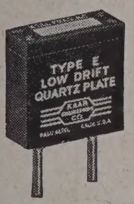
686, Table model, (165 V., 50 MA.) for operation from 6.3 volts DC, with vibrator List $

KAAR

RADIOTELEPHONES, ACCESSORIES AND COMPONENT PARTS

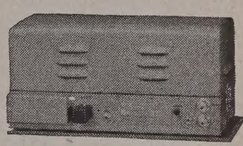
TYPE C&S CRYSTAL—1½" dia., ¾" high (exclusive of pins), Standard 0.125" pins on ¾" centers. Standard tolerance 0.01%, 4 cycles/Mc/°C. (2 cycles/Mc/°C or less drift slightly higher in price).

1500-7000Kc $12.00
7000-10,000Kc . . . $15.00



TYPE E CRYSTAL—The popular top loading, vertical type. Both compact and moisture proof. Ideal for multi-channel equipment. 1⅜"x ½"x 1⅜" high (exclusive of pins). Standard 0.125"pins on ¾" centers. Standard tolerance 0.01%, 4 cycles/Mc/°C. (2 cycles/Mc/°C or less drift slightly higher in price.)

1500-7000Kc $12.00
7000-10,000Kc $15.00

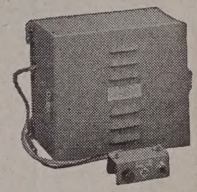


PTS-22X, 30-40 Mc mobile transmitter. *Instant heating*. 22 watts output $236.50

PTL-22X, 1.6-2.9Mc . $231.50

PTL-10X, 1.6-2.9Mc (10 watts) . . . $156.50

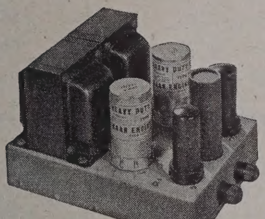
Crystals for above transmitters (not available separately at this price.) $8.50



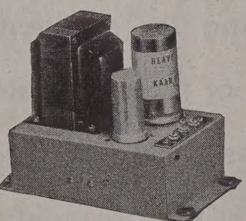
11X mobile receiver, 1600-2900 Kc. Crystal controlled. No-signal squelch circuit. Features remarkable degree of accessibility $70.75

PRS-9X, 30-40Mc (companion receiver to PTS-22X transmitter). . $129.75

Crystals for above receivers (not available separately at this price). $5.25

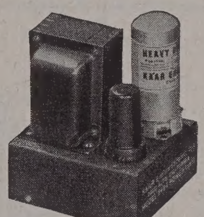


Heavy duty dual vibrator power pack with parallel output. Furnishes 300 volts at 200 ma. Type 648X 6 V DC Input . . . $38.25



Output 200 volts at 50 ma. Has built-in output filter.

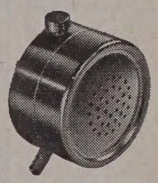
Type 650X 6 V DC Input . $20.00
Type 650Y 12 V DC Input . $20.00
Type 650W 32 V DC Input . $23.00



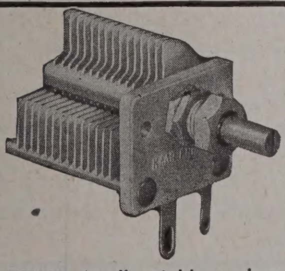
Output 240 volts at 50 ma. (Requires external output filter.)

Type 649X 6 V DC Input . $17.50
Type 649Y 12 V DC Input . $17.50

Type 647X (not shown). Provides 240 volts at 75 ma. from a 6 volt battery similar to the Type 649 except uses a synchronous vibrator . . $20.00

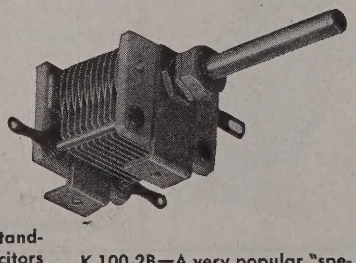


TYPE 4-C MICROPHONE — Single button, carbon type. Superb voice quality. High output. Moisture resistant. "Push-to-Talk" switch. Complete with holder, 3 feet, 3 conductor cable and standard plug. $11.50

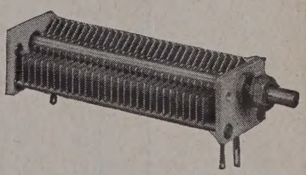


K SERIES—Small variable condensers. Standard plate spacing .022". All Kaar capacitors are of rugged construction with soldered and plated brass plates.

K-140	140 mmf	$1.34
K-100	100 mmf	$1.20
K-50	50 mmf	$1.02
K-25	25 mmf	$ .91
K-12	12 mmf	$ .82



K-100-2B—A very popular "special" with mounting brackets and shaft length to specification. Maximum capacity 100 mmf. Plate spacing .022". Available in other capacities and plate spacings.



K-150-050 — One of the most popular "specials" because of the high capacity available for the small panel space required. Maximum capacity of type illustrated 150 mmf., spacing .050". Available in other capacities and plate spacings, and with special mounting brackets to your specification. Other special types available with dual or even up to five sections.

TYPE AL-2 AUTO-LOAD ANTENNA—For use with medium frequency mobile transmitters. Has matching coil in base to match 72-ohm transmission line without auxiliary tuning equipment $39.50

Other radiotelephone equipment than that listed is available, including Central Station Transmitters and Receivers, Marine Radiotelephones, etc.

KAAR ENGINEERING CO.

KAAR ENGINEERING CO.
PALO ALTO • CALIFORNIA

Thank You!

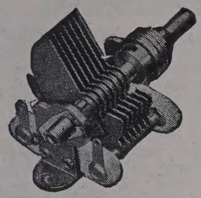
When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

HAMMARLUND

PRECISION PRODUCTS FOR BETTER RADIO

"MC" MIDGET CONDENSERS

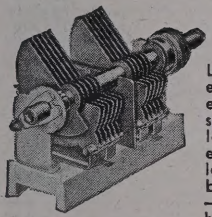


Ideal variable for ultra-short wave and short wave tuning, laboratories, etc. Isolantite insulation. All contacts riveted or soldered. Vibration proof. New improved Hammarlund split type rear bearing, and noiseless wiping contact. Cadmium plated soldered brass plates. Shaft—¼".

Code	Capacity	List
MC-20-S	20 mmf.	$2.20
MC-35-S	35 mmf.	2.30
MC-50-S	50 mmf.	2.40
MC-50-M	50 mmf.	2.40
MC-75-S	80 mmf.	2.60
MC-75-M	80 mmf.	2.60
MC-100-S	100 mmf.	2.80
MC-100-M	100 mmf.	2.80
MC-140-S	140 mmf.	3.00
MC-140-M	140 mmf.	3.00
MC-200-M	200 mmf.	3.30
MC-250-M	260 mmf.	3.60
MC-325-M	320 mmf.	4.00

"M"—Midline Plates "S"—Straight Line Cap. Plates

"MCD" SPLIT-STATOR CONDENSERS



Like single midgets, these incorporate every requirement imperative to highest quality. Specifications identical to single types except that shield plate is located between stator sections. Also equipped with new Hammarlund noiseless wiping contact and split type rear bearing. Overall length behind panel —3⅜". Strong Isolantite base. Single hole panel mount.

Code	Capacity	List
MCD-50-M	50 mmf. per sect.	$4.60
MCD-50-S	50 mmf. per sect.	4.60
MCD-100-S	100 mmf. per sect.	5.00
MCD-100-M	100 mmf. per sect.	5.00
MCD-140-M	140 mmf. per sect.	5.40
MCD-140-S	140 mmf. per sect.	5.40

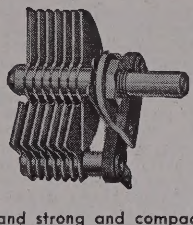
"M"—Midline Plates "S"—Straight Line Cap. Plates

IMPORTANT NOTICE

Due to the necessity of our taking a major part in the United Nations' war program, we find ourselves unable to guarantee prices or deliveries. The extreme difficulty of obtaining certain raw materials may require that we use substitute materials at times. It is, therefore, necessary that we reserve the right to change prices or specifications without notice. Correspondence is invited regarding the above in cases where prices, materials, or deliveries may affect your plans.

THE HAMMARLUND MFG. CO., INC.

"SM" STAR MIDGET CONDENSERS

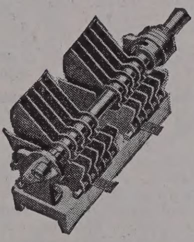


For receiving and transmitting, for short wave tuning, regeneration, antenna coupling, vernier, etc. Low loss, natural bakelite insulation. Non-corrosive aluminum plates. Phosphor bronze spring plate affords proper tension and smooth control and also provides perfect contact. Single hole mounting. ¼" shaft. 5/16" mounting bushing. 1-9/16" wide x 1¾" high. Depth behind panel from 11/16" to 1⅞" depending on capacity. Exceptionally light in weight and strong and compact in construction. Tinned soldered lugs on the front end are supplied to simplify wiring. Plates of straight line capacity types.

Code	Capacity	List
SM-15	15 mmf.	$0.90
SM-25	25 mmf.	.90
SM-50	50 mmf.	1.00
SM-100	100 mmf.	1.20
SM-140	140 mmf.	1.40
*SM-35-X	35 mmf.	1.20
*SM-50-X	50 mmf.	1.40

* Double Spaced Transmitting Types

"MCDX" DOUBLE SPACED CONDENSERS

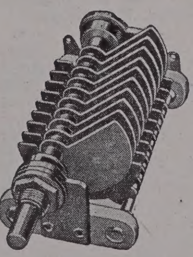


Identical to split stator condensers except that plates are widely spaced—actual air gap between rotor and stator plates—.0715". No shield between stators. Equipped with new Hammarlund noiseless wiping contact, and split type rear bearing. Condenser ideal for ultra-high frequency transmitters using up to 1000 volts.

Code	Capacity	List
MCD-35-MX	31 mmf. per sect.	$4.80
MCD-35-SX	31 mmf. per sect.	4.80

"MX"—Midline Plates "SX"—Straight Line Cap. Plates

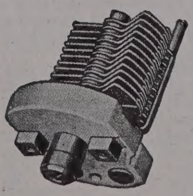
"MCX" DOUBLE SPACED CONDENSERS



Exceptional unit for ultra-s.w. receivers and transmitters particularly compact transmitters. Plate spacing — .0715". Great for tuning crystal controlled transmitter amplifier stages or for neutralizers up to 1000 volts. In midline (MX) and straight line cap. types (SX).

Code	Capacity	List
MC-20-SX	20 mmf.	$2.40
MC-20-MX	20 mmf.	2.40
MC-35-MX	32 mmf.	2.60
MC-35-SX	32 mmf.	2.60
MC-50-MX	50 mmf.	2.80
MC-50-SX	50 mmf.	2.80
MC-100-SX	100 mmf.	3.50

"APC" MICRO CONDENSERS



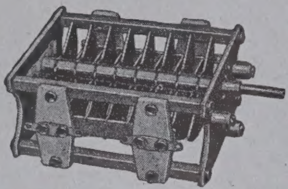
For S.W. and ultra-S.W. For I.F. tuning, trimming R.F. coils or gang condensers, general padding, etc. Constant capacity under any conditions of temperature or vibration. Size 100 mmf. 1-7/32" x 15/16" x 1-7/32". Islantite base. Cadmium plated soldered brass plates.

Code	Capacity	List
APC-25	25 mmf.	$1.30
APC-50	50 mmf.	1.50
APC-75	75 mmf.	1.70
APC-100	100 mmf.	1.90
APC-140	140 mmf.	2.25

PRECISION PRODUCTS FOR BETTER RADIO

HAMMARLUND

"TC" TRANSMITTING CONDENSER

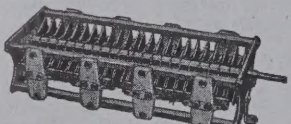


An entirely new moderately priced, heavy duty transmitting condenser, featuring heavy aluminum end plate, Isolantite insulation, non-inductive, self-cleaning silver plated beryllium contacts, full floating rotor bearing, non-magnetic rotor assembly, polished heavy aluminum plates accurately spaced. All, except type "L," have round edge plates of .040" thickness. Type "L" has .025" plates with plain edges. Type "F" has .230", 7500 V. air gap. Type "G," .200", 6750 V. Type "H," .171", 6000 V. Type "J," .100" 4250 V. Type "K," .084," 3750 V. Type "L," .070", 2000 V. air gap.

Available in a wide variety of capacities and working voltages, these condensers are ideal for modern up-to-date transmitters with power outputs ranging from 200 watts to 1 kw.

Type	Capacity	Overall Length	List
TC-220-L	220 mmf.	$4\frac{1}{16}$	$ 6.30
TC-440-L	465 mmf.	$5\frac{7}{8}$	9.10
TC-90-K	95 mmf.	$2\frac{15}{16}$	5.70
TC-165-K	170 mmf.	$4\frac{1}{16}$	6.50
TC-220-K	225 mmf.	$4\frac{5}{8}$	8.00
TC-330-K	340 mmf.	$6\frac{1}{2}$	10.00
TC-240-J	250 mmf.	$6\frac{1}{2}$	10.20
TC-25-H	25 mmf.	$2\frac{15}{16}$	5.10
TC-50-H	.53 mmf.	$4\frac{1}{16}$	6.00
TC-110-H	115 mmf.	$6\frac{1}{2}$	9.00
TC-40-G	45 mmf.	$4\frac{1}{16}$	7.00
TC-65-G	72 mmf.	$5\frac{7}{8}$	8.80
TC-100-G	110 mmf.	$7\frac{1}{2}$	11.20
TC-150-G	165 mmf.	$10\frac{5}{8}$	14.80
TC-55-F	60 mmf.	$5\frac{7}{8}$	8.00

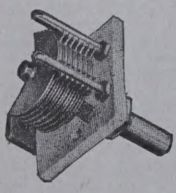
"TCD" SPLIT STATOR TYPES



These split-stator transmitting condensers are identical to the singles shown above, except that the stator sections are individual. Ideal for push-pull power amplifiers ranging in power up to 1 kw. They are of convenient size and lend themselves to construction of compact apparatus. Overall dimensions in back of panel are given in the accompanying table. The capacity values listed are for each section. The last letter in the code represents plate spacing and working voltage. These are identical to those given above. Type "M"—plain plates, .030" air gap.

Type	Capacity	Overall Length	List
TCD-500M	505 mmf.	$4\frac{1}{16}$	$10.30
TCD-80-L	88 mmf.	$4\frac{1}{16}$	8.30
TCD-210-L	215 mmf.	$5\frac{7}{8}$	10.40
TCD-90-K	95 mmf.	$4\frac{5}{8}$	9.40
TCD-165-K	170 mmf.	$6\frac{1}{2}$	11.50
TCD-325-K	335 mmf.	$11\frac{1}{16}$	20.50
TCD-240-J	250 mmf.	$11\frac{1}{16}$	19.00
TCD-50-H	53 mmf.	$6\frac{1}{2}$	9.80
TCD-110-H	115 mmf.	$11\frac{1}{16}$	16.00
TCD-40-G	48 mmf.	$7\frac{1}{2}$	10.50
TCD-75-G	82 mmf.	$11\frac{1}{16}$	14.50
TCD-55-F	60 mmf.	$11\frac{1}{16}$	13.50

"HF" MICRO CONDENSERS

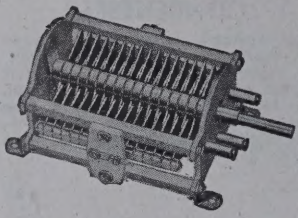


For tuning or trimming on high frequencies. Cadmium plated soldered brass plates. Isolantite. Base mounting, single hole panel mount, or panel mounting with bushings. 140 mmf. size $1\frac{9}{32}$" high x $\frac{17}{32}$" behind panel.

Code	Capacity	List
HF-15	17.5 mmf	$1.40
HF-35	35 mmf	1.60
HF-50	50 mmf	1.70
HF-100	100 mmf	2.10
HF-140	140 mmf	2.40
*HF-15-X	15 mmf	1.70
*HF-30-X	30 mmf	1.90

* Double spaced

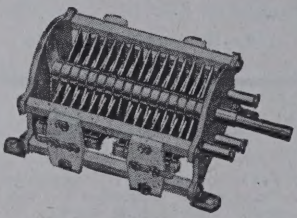
"MTC" TRANSMITTING CONDENSERS



Compact types, Isolantite insulation. Base or panel mounting. Polished aluminum plates. Stainless steel shaft. Size of 150 mmf. with .070" plate spacing only $4\frac{5}{8}$" behind panel. "A" model has .040" plate thickness, all others .025". "A" and "B" models — rounded plates. "C" types —plain plate edges. Self-cleaning wiping contact.

Code	Capacity	List
MTC-20-B	20 mmf.	$4.10
MTC-35-B	35 mmf.	4.30
MTC-50-B	50 mmf.	4.60
MTC-100-B	100 mmf.	5.30
MTC-150-B	150 mmf.	6.10
MTC-50-C	50 mmf.	4.10
MTC-100-C	100 mmf.	4.40
MTC-150-C	150 mmf.	4.80
MTC-250-C	260 mmf.	5.30
MTC-350-C	365 mmf.	5.80

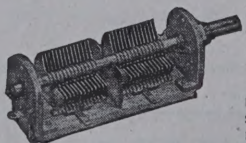
"MTCD" SPLIT-STATOR TYPES



Same outstanding features as MTC singles except that stator sections are separate. Model 110-B with .070" plate spacing, only $5\frac{3}{4}$" behind panel. "B" models — rounded plates "C" models—plain plate edges.

Code	Capacity	List
MTCD-20-B	20 mmf. per sect	$6.50
MTCD-35-B	35 mmf. per sect	6.00
MTCD-50-B	50 mmf. per sect	6.50
MTCD-100-B	100 mmf. per sect	8.75
MTCD-50-C	50 mmf. per sect	5.50
MTCD-100-C	100 mmf. per sect	6.00
MTCD-150-C	150 mmf. per sect	6.50
MTCD-250-C	265 mmf. per sect	7.50

"HFD" MICRO DUAL CONDENSERS



A compact dual—ideal as a high frequency tuning condenser, for tuning and neutralizing low-powered short wave and ultra-short wave transmitters, etc. Heavy Isolantite base. Equipped with new outstanding Hammarlund split rear bearing and individual noiseless wiping contact for each section. Rotor contacts variable to several positions for shortest leads. Shield between sections for grounding. The 140 mmf. size is only $1\frac{1}{2}$" high x $3\frac{3}{4}$" long behind panel. $\frac{1}{4}$" shaft. Cadmium plated soldered brass plates.

Code	Capacity	List
HFD-50	50 mmf. per sect	$3.60
HFD-100	100 mmf. per sect	4.10
HFD-140	140 mmf. per sect	4.50
*HFD-15-X	15 mmf. per sect	3.40
*HFD-30-X	28.5 mmf. per sect	3.80

*Double-Spaced

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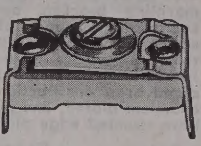
PRECISION PRODUCTS FOR BETTER RADIO

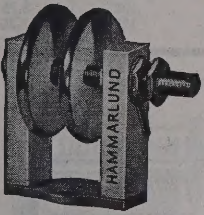
"MEX" EQUALIZERS



The midget equalizer shown at right is an extremely small condenser designed expressly for trimming R.F. coils, but useful, of course, for many other purposes. Self-supporting in wiring. Isolantite base—⅝ x ⅞. Mica dielectric, phosphor bronze spring plates.

Code	Capacity	List
MEX	4-30 mmf.	$0.30

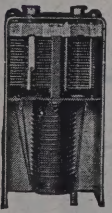
"N" NEUTRALIZING CONDENSERS



Rounded edges. Isolantite. Fine adjusting screw. Positive lock. Horizontal adjustment. Type "N-10", 2⅝" high x 1-3/16" deep. "N-15" 4-15/16" high x 3½" deep. "N-20", 5-11/16" high x 4" deep.

Code	List
N-10—(2.1—10 mmf.)	$4.60
N-15—(3.2—14 mmf.)	8.70
N-20—(3.8—14 mmf.)	9.30

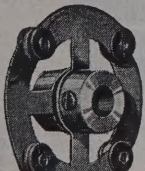
"ETU" EXCITER TUNING UNIT



Compact tuning unit for exciters. Ready-wound for 80, 40, 20 and 10 meters. Link output. Has two 25 mmf. double spaced condensers. "ETU-80" for 80 meters, "ETU-40" for 40 meters, etc. Supplied completely wired and ready for installation. Also available unwound. Size 2" x 4" x 1$\frac{7}{16}$".

Code	List
ETU-10-20-40-80—(Wound)	$5.50 ea.
ETU—(Unwound)	4.80 ea.

"FC" FLEXIBLE COUPLINGS



The sides of coupling are insulated from each other, allowing instruments in gang to be operated as independent electrical units. Bakelized canvas with brass bushings for ¼" shaft. Four rust proofed and hardened steel set screws provide against shaft slipping. Overall diameter 1½".

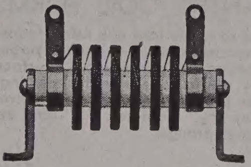
Code	List
FC	$0.75

"CK-125" STAR CHOKE

This low-priced midget choke has four universal wound pies on an Isolantite rod. The pies are impregnated to reduce moisture absorption. Current carrying cap. 125 ma. DC Res.—50 ohms. Ind.—2.5 mh. Dist. Cap.—1 mmf. Has flat flexible leads for easy soldering and mounting. Individually packed.

Code	List
CK-125	$0.35

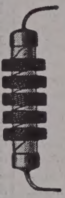
"CH-500" TRANSMITTING CHOKES



For parallel feed in high powered transmitters—20- 40- 80- and 160-meter amateur bands. High equivalent impedance more than 500,000 ohms. Effective from 1,500 to 15,000 kc. with exception of frequencies between 5,300 and 6,400 and between 8,000 and 9,000. Six thin universal pies. Isolantite core. Insulated mounting brackets secured to Isolantite core with short machine screws. Brackets removable and choke mounted with a single machine screw. Ind.—2.5 mh. Dist. cap. lass than 1.5 mmf. D.C. res.—8 ohms. Max. recommended D.C. (continuous) 500 ma. Overall size, less brackets—1$\frac{3}{16}$" x 2½".

Code	List
CH-500	$1.75

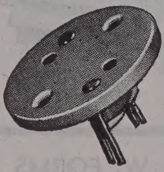
"CHX" AND "CH-250" CHOKES



Invaluable item where space is at a premium. Small in size, light in weight, can be supported by leads. "CHX" has five impregnated pies. Ind.—2.1 mh. DC. res.—35 ohms. Dist. Cap.—1 mmf., 125 ma. DC. Length, 1½". Dia., ½". "CH-250" similar to "CHX". Has 250 ma. current rating. Ind.—1 mh. DC. Res. 10 ohms. Dist. cap. 1 mmf. Length, 1½". Dia., ⅝".

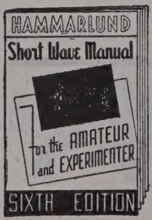
Code	List
CHX	$ .50
CH-250	.50

"XS-2" CRYSTAL SOCKET



The "XS-2" is a special crystal socket designed to conserve space and provide a low loss mounting for standard crystal holders. Made with heavy-duty spring contacts and mounted on glazed Isolantite. Can also be mounted inside "SWF" coil forms for changing coil and crystal in one operation. Overall diameter 1$\frac{5}{16}$".

Code	List
XS-2	$0.60



SHORT WAVE MANUAL SIXTH EDITION

Receivers, transmitters, antennas, modulators—everything for the short wave amateur and experimenter will be found in this valuable little book. Its 32 pages are crammed with information on constructing and operating shortwave transmitting and receiving apparatus. Written in simple language, the new Short Wave Manual will appeal to the beginner and oldtimer alike.

Code	Price
SWM	$0.10

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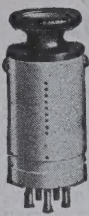


"CF" ISOLANTITE COIL FORMS

Popular coil forms so many fans are using today. Black enameled wooden knob. Removable paper indicating disc protected by celluloid. Surface "non-skid". Plenty of holes—eliminates drilling. Slotted bottom for primary or tickler. Four, five, and six prong types. 1 1/2" diameter. 2 1/2" long exclusive of knobs and prongs.

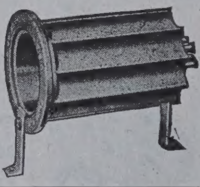
Code	List
CF-4 (four prongs)	$1.60
CF-5 (five prongs)	1.60
CF-6 (six prongs).	1.60

"XP-53" COIL FORMS AND KITS

Outstanding forms using new low loss insulation material—XP-53. Natural coloring eliminating losses. Groove-ribbed for air spaced windings. Flange grips, meter indexes. Moulded threaded shelf in form. 1 1/2" diameter and 2 7/8" long exclusive of prongs. Kits with wound coils for MC-140-M condenser also available.

Code	List
SWF-4 (four prongs, coil form only)	$0.50
SWF-5 (five prongs, coil form only)	.50
SWF-6 (six prongs, coil form only)	.60
No. 40 coil (wound coil, 4 prongs, 10-20 meters)	1.25
No. 41 coil (wound coil, 4 prongs, 17-41 meters)	1.25
No. 42 coil (wound coil, 4 prongs 33-75 meters)	1.25
No. 43 coil (wound coil, 4 prongs, 66-150 meters)	1.00
No. 44 coil (wound coil, 4 prongs, 135-270 meters)	1.00
BCC-4 (wound coil, 4 prongs, 250-560 meters)	1.25
No. 60 coil (wound coil, 6 prongs, 10-20 meters)	1.50
No. 61 coil (wound coil, 6 prongs, 17-41 meters)	1.50
No. 62 coil (wound coil, 6 prongs, 33-75 meters)	1.50
No. 63 coil (wound coil, 6 prongs, 66-150 meters)	1.25
No. 64 coil (wound coil, 6 prongs, 135-270 meters)	1.25
BCC-6 (wound coil, 6 prongs, 250-560 meters)	1.50
SWK-4 (kit—4, four-prong coils, 17-270 meters)	4.25
SWK-6 (kit—4, six-prong coils, 17-270 meters)	5.00

"TCF" COIL FORM



A transmitting coil form of XP-53 dielectric is also available. This may be permanently mounted on special brackets supplied, or in plug-in coil fashion. 2 1/4" diameter. 3 7/8" long exclusive of prongs.

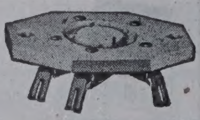
Code	List
TCF-4 (4 prongs)	$0.80
TCF-5 (5 prongs)	.80

"CF-M" ULTRA S. W. FORMS

Unusual coil form for maximum efficiency at ultra-high frequencies or within the 28-56 megacycle band. Isolantite with correct form factor and resultant minimum high frequency resistance guaranteeing absolute stability. Plenty of holes to facilitate any inductance desired and any type of wiring. Form is 1 1/8" in diameter and 2" long exclusive of prongs.

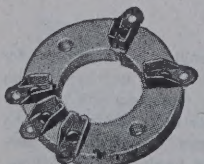
Code	List
CF-5-M	$1.30

"S" ISOLANTITE SOCKETS



Standard socket at right. Lowest losses. Constant resistivity. Gripped prongs—cannot shift. Guide groove. Rustproof side gripping contacts. Glazed top and sides. Sub-panel or base mounting. 2 1/4" x 1 5/8".

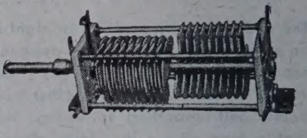
Code	List
S-4 (4 prongs)	$0.60
S-5 (5 prongs)	.65
S-6 (6 prongs)	.70
S-7 (large base, 7 prongs)	.75
S-7 B (small base, 7 prongs)	.75
S-8 (8 prongs)	.80



New "locking" acorn tube socket for high frequency acorn tubes—954 or 955. 1 9/16" diameter. Five double grip silver plated Beryllium prongs. Top and sides glazed. Shielded plate to reduce feedback. UHS-900-X has 1 3/8" mounting centers.

Code	List
UHS-900	$1.10
UHS-900-X	1.50

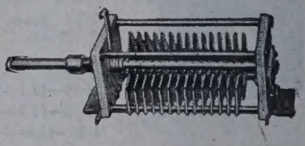
"HFBD" TRANSMITTING CONDENSERS



High efficiency, high frequency dual condensers with isolated rotor. Both mounting brackets and control shafts are insulated. DC can be applied to rotor as well as stator. Isolantite end plates, soldered brass construction, cadmium plated. End plate size 1 13/16". Types "E", "F" and "G" have rounded edge plates.

Code	Capacity	Length	Air Gap	List
HFBD-35-C	35 mmf.	2 7/16"	.050"	$6.80
HFBD-50-C	50 mmf.	2 7/8"	.050"	7.00
HFBD-100-C	100 mmf.	4 5/8"	.050"	8.30
HFBD-200-C	200 mmf.	7 11/16"	.050"	11.00
HFBD-35-E	35 mmf.	3 1/4"	.070"	6.20
HFBD-65-E	65 mmf.	4 13/16"	.070"	7.10
HFBD-100-E	100 mmf.	6 11/16"	.070"	9.00
HFBD-35-F	35 mmf.	4 5/8"	.100"	6.50
HFBD-65-F	65 mmf.	7 3/8"	.100"	8.25
HFBD-35-G	35 mmf.	6 3/16"	.125"	7.25

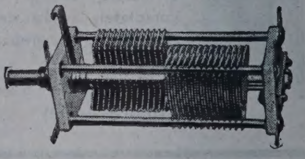
"HFB" CONDENSERS

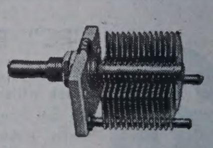


Same as above but single stator types. Stator is mounted at top to reduce capacity to chassis. The "HFB" has insulated mounting brackets and control shaft. Types "E" and "F" have rounded edge plates.

Code	Capacity	Length	Air Gap	List
HFB-50-C	50 mmf.	1 7/8"	.050"	$4.60
HFB-100-C	100 mmf.	2 7/8"	.050"	5.10
HFB-150-C	150 mmf.	3 9/16"	.050"	5.60
HFB-50-E	50 mmf.	2 7/16"	.070"	4.90
HFB-100-E	100 mmf.	3 13/16"	.070"	5.80
HFB-50-F	50 mmf.	3 3/8"	.100"	5.00
HFB-100-F	100 mmf.	5 7/8"	.100"	6.90

"HFA" & "HFAD" CONDENSERS





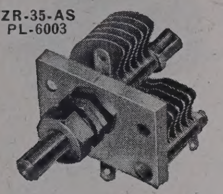
"HFAD" has the same general construction as "HFBD" except that it is smaller in size and does not have the insulated control shaft. Ideal for ultra-high frequency operation. End panels 1 3/8" square. "HFA" same construction, except end panel 1 13/16" x 1 1/32". Both can be single hole panel mounted or can be mounted to the panel with stand-off bushings. Plain edge plates.

Code	Capacity	Type	Length	Air Gap	List
HFAD-75-A	75 mmf.	Dual	2 3/8"	.020"	$5.00
HFAD-100-A	100 mmf.	Dual	2 23/32"	.020"	5.30
HFAD-140-A	140 mmf.	Dual	3 3/8"	.020"	5.90
HFAD-25-B	25 mmf.	Dual	1 29/32"	.030"	3.90
HFAD-35-B	35 mmf.	Dual	2 3/32"	.030"	4.10
HFAD-50-B	50 mmf.	Dual	2 1/2"	.030"	4.40
HFAD-100-B	100 mmf.	Dual	3 29/32"	.030"	5.40
HFAD-150-B	150 mmf.	Dual	5 3/32"	.030"	6.40
HFAD-15-E	15 mmf.	Dual	2 23/32"	.070"	4.00
HFAD-30-E	30 mmf.	Dual	4 3/16"	.070"	4.60
HFA-75-A	75 mmf.	Single	1 1/4"	.020"	2.40
HFA-100-A	100 mmf.	Single	1 13/32"	.020"	2.60
HFA-140-A	140 mmf.	Single	1 3/4"	.020"	3.00
HFA-10-B	10 mmf.	Single	25/32"	.030"	2.00
HFA-15-B	15 mmf.	Single	7/8"	.030"	2.10
HFA-25-B	25 mmf.	Single	31/32"	.030"	2.20
HFA-35-B	35 mmf.	Single	1 3/16"	.030"	2.30
HFA-50-B	50 mmf.	Single	1 3/8"	.030"	2.40
HFA-100-B	100 mmf.	Single	2 11/32"	.030"	3.20
HFA-150-B	150 mmf.	Single	2 31/32"	.030"	3.70
HFA-15-E	15 mmf.	Single	1 3/8"	.070"	2.20
HFA-30-E	30 mmf.	Single	2 1/2"	.070"	2.50

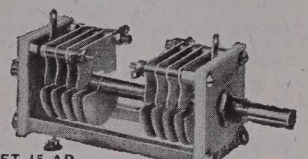
STANDARDS OF COMPARISON

TRIM-AIR MIDGET CAPACITORS

Combine essential sturdiness with the flexibility obtained only in a spacer-built rotor and stator type of assembly.



ZR-35-AS
PL-6003



ET-15-AD
PL-6037

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: End Plates of 5/32" thick Isolantite.

SHAFT: ¼" diameter, nickel plated brass.

PLATES: .020" thick aluminum, specially treated to remove burrs.

FINISH: Spacers, bushing nuts and screws nickel plated brass.

MOUNTING: Singles require one ⅜" hole in panel; Duals provided with four No. 4-36 screws in square brass tie rods. Trim-Air mounting posts or brackets fit both single and dual types. Singles are fitted with tapered nuts acting on split bushing for locking rotor shaft for fixed tune. Duals have rear shaft extension for coupling to other units and have a removable intersection shield, on airgaps of .020 and .030.

Note: Single section Trim-Airs normally stocked with full length shaft for knob or dial. Stub shaft equivalents, with slot for screw driver adjustment only, available to order. "ZS" type singles have .040" thick plates with rounded buffed edges.

SINGLE TRIM-AIR CONDENSERS (Long Shaft Construction)

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
PL 6016	ZU-75-AS	75	2.7	15	.020	1 3/8	$2.15
PL 6017	ZU-100-AS	100	3	19	.020	1 1/2	2.20
PL 6018	ZU-140-AS	140	5	27	.020	1 23/32	3.95
PL 6000	ZR-10-AS	10	1.2	3	.030	7/8	1.60
PL 6001	ZR-15-AS	15	1.5	5	.030	31/32	1.65
PL 6002	ZR-25-AS	25	2	7	.030	1 1/16	1.80
PL 6003	ZR-35-AS	35	2.5	11	.030	1 9/32	1.90
PL-6004	ZR-50-AS	50	2.8	13	.030	1 3/8	2.00
PL 6055	ZR-100-AS	108	6.6	29	.030	2 9/64	SPEC.
PL 6024	ZV-5-TS*	5	1.5	3	.060	7/8	1.60
PL 6044	ZT-5-AS	5	2	3	.070	31/32	1.80
PL 6010	ZT-10-AS	11	3.6	6	.070	1 1/16	1.85
PL 6011	ZT-15-AS	15	3	9	.070	1 1/2	1.95
PL 6012	ZT-30-AS	30	4	17	.070	2 17/64	2.35
PL 6022	ZS-4-SS	4	1.5	5	.140	1 1/2	2.35
PL 6023	ZS-7-SS	7	4	7	.140	1 27/32	2.65

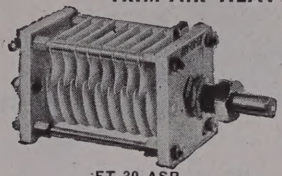
* Supplied with 2 segment stator for UHF circuits. Extra plate also supplied, making 3 plates as listed.

DUAL TRIM-AIR CONDENSERS

Per Section

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
6041	EU-75-AD	75	2.7	15	.020	3 1/32	$4.15
6042	EU-100-AD	100	3	19	.020	3 1/32	4.30
6043	EU-140-AD	140	5	27	.020	3 11/16	7.60
6028	ER-10-AD	10	1.2	3	.030	2 3/16	3.30
6029	ER-15-AD	15	1.5	5	.030	2 3/16	3.30
6030	ER-25-AD	25	2	7	.030	2 3/16	3.40
6031	ER-35-AD	35	2.5	11	.030	3 1/32	3.70
6032	ER-50-AD	50	2.8	13	.030	3 1/32	3.90
6065	ER-100-AD	100	6.9	25	.030	3 11/16	7.00
6037	ET-15-AD	15	3	9	.070	3 1/32	3.80
6039	ET-30-AD	30	4	17	.070	4 15/32	4.55
6033	ES-4-SD	4	1.5	5	.140	3 1/32	4.55
6035	ES-7-SD	7	4	7	.140	3 11/16	5.05

TRIM-AIR HEAVY DUTY SPECIALS



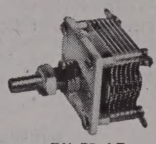
ET-30-ASP
PL-6058

Four-tie-rod frame, ball and strap rear bearing construction, augmenting the simplified Trim-Air construction, to give even greater strength and rigidity. General characteristics otherwise same as standard Trim-Airs.

Dual section units have balanced rotor and stator sections and both single and dual section types may be single hole mounted or used with standard Trim-Air mounting accessories. Standard Trim-Air shaft locking nut may be used for fixed tune. PL-6069 and PL-6068 are duals with rear shaft extended; all others have ball and strap type rear bearing.

SINGLES		LIST	DUALS		LIST
PL 6056	ER-50-ASP	$3.75	PL 6057	ER-50-ADP	$4.15
PL 6059	EU-75-ASP	3.40	PL 6069	ER-50-ADP (rear sh. ext.)	7.50
PL 6058	ET-30-ASP	3.50	PL 6068	EU-140-ADP (rear sh. ext.)	10.00

DIFFERENTIAL TYPE TRIM-AIR MIDGETS



EU-75-AB
PL-6047

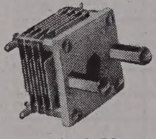
A small, compact balancing type capacitor having ideal constructional features of the regular Trim-Air capacitor. This type has two stators, set 180 degrees from each other, engaging a single rotor. All balancing Trim-Airs are single bearing type except EU-140-AB, which has additional Isolantite rear end plate, with "ball and strap" rear bearing. All types single hole mounting in a ⅜" hole in panel or chassis, or standard Trim-Air bracket or mounting posts may be purchased separately.

DIFFERENTIAL TRIM-AIR MIDGET CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
PL 6047	EU-75-AB	75	2.7	15	.020	2 15/32	$3.15
PL 6048	EU-100-AB	100	3	19	.020	2 19/32	3.30
PL 6049	EU-140-AB	140	5	27	.020	—	6.65
PL 6066	ER-10-AB	10	1.5	4	.030	1 57/64	2.30
PL 6045	ER-25-AB	25	2	7	.030	2 5/32	2.40
PL 6046	ER-50-AB	50	2.8	13	.030	2 15/32	2.90

Note: Capacity per table, on basis of single rotor section to either one of two stators.

TYPE "E" MIDGET FIXED AIR CONDENSERS



EO-50-FS
PL-9510

Similar to larger type "J" Fixed units, the smaller Cardwell Type "E" Fixed air capacitors are only 1-13/32 inches square. Built to fit standard Trim-Air condenser accessories. Mounting space required is same as for Cardwell Dual Trim-Air condensers. Used as low-loss interstage coupling condensers in transmitters of moderate power and as capacity loader in circuits requiring combinations of variable and fixed capacities.

MIDGET FIXED AIR CONDENSERS

Parts List No.	Type	Cap.	No. Plates	Air Gap	Overall Length	List Price
PL 9500	EU-80-FS	84	6	.020	1 5/16	$1.80
PL 9501	EU-100-FS	116	8	.020	1 7/16	2.00
PL 9502	EU-175-FS	183	12	.020	1 9/16	2.05
PL 9503	EU-200-FS	217	14	.020	1 11/16	2.25
PL 9504	ER-50-FS	57	6	.030	1 5/16	1.85
PL 9505	ER-75-FS	80	8	.030	1 7/16	1.95
PL 9506	ER-100-FS	100	10	.030	1 9/16	2.05
PL 9507	ER-150-FS	149	14	.030	1 11/16	2.45
PL 9508	ER-200-FS	215	20	.030	2 1/16	3.15
PL 9509	ER-300-FS	283	27	.030	2 7/16	3.80
PL 9510	EO-50-FS	50	8	.050	1 11/16	2.25
PL 9511	EO-100-FS	100	15	.050	2 1/16	2.65
PL 9512	EO-150-FS	150	22	.050	2 31/32	3.35
PL 9513	EO-200-FS	194	30	.050	3 9/16	3.85
PL 9514	EE-10-FS	12	4	.100	1 9/16	1.85
PL 9515	EE-60-FS	60	18	.100	3 9/16	3.80

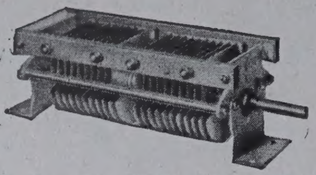
CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

STANDARDS OF COMPARISON

MIDWAY TRANSMITTING CAPACITORS

The Midway is ideal for low and medium power transmitters for portable Mobile and aircraft equipment, due to its light weight, compact size and extremely sturdy construction. Incorporates original patented features of the larger "X" type standard transmitting condenser.



MT-100-GD PL-7030
with PL-5051 Mtg. Brackets

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: All aluminum end plates and tie rods.

SHAFT: ¼" C.R. steel, cadmium plated.

PLATES: .025" aluminum. On sizes having airgap of .070" or over, plates have rounded edges, buffed to minimize corona loss.

BEARINGS: Brass, nickel plated shoulder type front bearing with ball thrust rear bearing.

INSULATION: Mycalex.

MOUNTING: 3 point front panel mounting by means of 3 screws and hex. posts. Two aluminum mounting feet with screws, Cardwell Part List No. 5052 for regular chassis mounting, provided instead, if so ordered. Type "M" special brackets (Part List No. 5051) permit inverted mounting.

MIDWAY SINGLE CONDENSERS

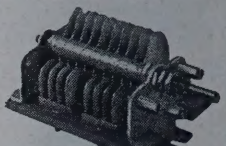
Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL7000	MR-25-BS	25	6	3	.030	1 3/4	$3.40
PL7001	MR-50-BS	50	6	5	.030	1 3/4	4.30
PL7002	MR-70-BS	70	7	7	.030	1 3/4	4.45
PL7003	MR-105-BS	112	9	11	.030	1 3/4	4.60
PL7004	MR-150-BS	150	10	15	.030	1 3/4	5.00
PL7005	MR-260-BS	260	13	25	.030	2 3/4	5.50
PL7006	MR-365-BS	365	16	35	.030	2 3/4	6.00
PL7015	MT-20-GS	25	8	5	.070	1 3/4	4.15
PL7016	MT-35-GS	35	6	7	.070	1 3/4	4.45
PL7017	MT-50-GS	50	10	11	.070	1 3/4	4.95
PL7018	MT-70-GS	70	10	15	.070	2 3/4	5.65
PL7019	MT-100-GS	100	14	21	.070	2 3/4	6.20
PL7020	MT-150-GS	150	18	31	.070	3 11/16	7.60
PL7021	MG-35-NS	35	14	15	.171	3 11/16	7.60
PL7024	MO-165-BS	165	15	25	.050	2 3/4	4.20

MIDWAY DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Over End Plates	List Price
PL7007	MR-25-BD	25	5	3	.030	1 3/4	$5.50
PL7008	MR-50-BD	47	7	5	.030	2 3/4	5.90
PL7009	MR-70-BD	70	8	7	.030	2 3/4	6.20
PL7010	MR-100-BD	112	9	11	.030	2 3/4	6.45
PL7011	MR-150-BD	150	10	15	.030	2 3/4	6.65
PL7013	MR-260-BD	260	13	25	.030	3 11/16	7.50
PL7026	MT-20-GD	20	6	5	.070	2 3/4	7.00
PL7027	MT-35-GD	35	8	7	.070	2 3/4	7.60
PL7028	MT-50-GD	50	9	11	.070	2 15/16	8.05
PL7029	MT-70-GD	70	11	15	.070	3 11/16	8.85
PL7030	MT-100-GD	100	13	21	.070	5 11/32	10.10
PL7031	MO-180-BD	190	15	29	.050	5 11/32	10.10

"N" TYPE TRANSMITTING CAPACITORS

Designed for medium power high frequency transmitters and short wave therapy apparatus, the Cardwell "N" series maintains the customary high standard of Cardwell construction, yet eliminates closed circuit loops completely.



NP-35-DD
PL-7107

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: Improved aluminum end plates support heavy lateral ceramic insulating bars which carry the stators.

SHAFT: ¼" diameter cadmium plated steel.

PLATES: Aluminum, .040" thick, with rounded edges. PL-7106 and 7116 have buffed and polished edges. PL-7105 has .025" thick plates, buffed and polished edges.

BEARINGS: Cardwell shoulder type front bearing, with ball thrust rear bearing.

MOUNTING: Can be single hole mounted, or by three mounting posts and screws, to front panel. Chassis mounting on feet which form part of end plates, or use Cardwell "M" brackets, Cardwell part No. 301, for inverted mounting, for lowest stator-to-ground capacity.

ULTRA-HIGH FREQUENCY SINGLE CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7100	NP-50-DS	50	9	13	.084	3 3/8	$4.45
PL7101	NP-75-DS	75	11	19	.084	4 5/32	5.20
PL7102	NP-100-DS	100	13	25	.084	5 7/32	5.90
PL7103	NP-150-DS	150	19	39	.084	6 11/16	7.70
PL7104	NG-35-DS	35	11	15	.171	5 7/32	5.80

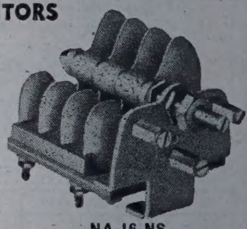
ULTRA-HIGH FREQUENCY DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Back of Panel	List Price
PL7105	NT-50-GD	50	7	11	.070	4 5/32	$7.60
PL7116	NP-15-ND	17	4	5	.084	4 5/32	7.20
PL7106	NP-35-ND	35	5	9	.084	4 5/32	7.60
PL7110	NP-15-DD	17	4	5	.084	4 5/32	6.45
PL7107	NP-35-DD	35	5	9	.084	4 5/32	6.80
PL7108	NP-50-DD	50	9	13	.084	5 7/32	7.60
PL7109	NP-75-DD	75	11	19	.084	6 11/16	9.10
PL7115	NA-12-NDI	13	6	7	.218	5 15/16	19.00

Note: NA-12-NDI is dual neutralizer, rotor sections insulated from each other. Capacity and nr. plates shown, is PER SECTION.

"NA" NEUTRALIZING CAPACITORS

The "NA" group offers 180° neutralizing capacitors of restricted range, for dial or screw driver adjustment. Shaft lock for permanent setting. Adjustable airgap on NA-4-NS *only* by adjusting threaded bushing in aluminum end plate. Single rotor bearing with beryllium tension washer and special bushing for rigidity. Plates are .040" thick aluminum, rounded and buffed edges. Three point panel mounting or foot mounting.



NA-16-NS
PL-7114

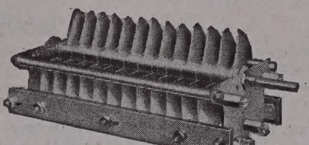
Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7111	NA-4-NS	4	3.25	2	.218	1 13/32	$4.55
PL7112	NA-6-NS	6	4	3	.218	1 13/32	4.55
PL7113	NA-10-NS	12	6	6	.218	2 13/32	5.70
PL7114	NA-16-NS	16	7	8	.218	3 3/32	6.35

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

STANDARDS OF COMPARISON

"X" TYPE STANDARD TRANSMITTING CAPACITOR


XC-100-XS
PL-8023

The original grounded rotor, metal frame variable air capacitor.

Rounded edges, polished aluminum plates, .040" thick on all but "XT" and "XR" types.

Frames, tie rods, bearing bushings, spacers and stator blocks, nickeled brass. Cadmium plated ¼" steel shaft supports securely locked rotor assembly. Mycalex insulation. Panel spaces 4⅛" x 3⅜". Panel mounting. N.P. brass mounting feet provided on special order, for chassis mounting. See Accessories.

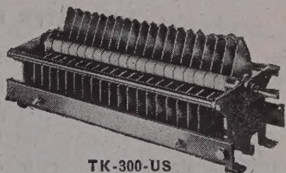
"X" TYPE STANDARD SINGLES

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL8000	XR-50-PS	50	11	3	.030	1½	$4.35
PL8001	XR-100-PS	100	12	5	.030	1½	4.45
PL8002	XR-150-PS	150	12.5	7	.030	1½	4.55
PL8003	XR-250-PS	250	13	11	.030	1½	4.65
PL8004	XR-375-PS	375	16	17	.030	2$\frac{1}{16}$	5.30
PL8005	XR-500-PS	475	18	21	.030	2$\frac{1}{16}$	6.50
PL8007	XR-1000-PS	950	30	41	.030	3$\frac{3}{16}$	12.50
PL8013	XR-1500-PS	1500	50	65	.030	5	13.75
PL8048	XT-220-PS	220	20	21	.070	3$\frac{3}{16}$	6.30
PL8050	XT-440-PS	440	40	43	.070	5	9.70
PL8040	XP-90-KS	90	16	11	.084	2$\frac{1}{16}$	5.70
PL8041	XP-165-KS	165	22	19	.084	3$\frac{3}{16}$	8.20
PL8043	XP-290-KS	290	35	33	.084	5	12.00
PL8044	XP-330-KS	330	37	37	.084	5⅝	13.70
PL8029	XE-120-XS	120	19	17	.100	3$\frac{3}{16}$	7.60
PL8031	XE-240-XS	240	30	33	.100	5⅝	13.70
PL8025	XD-160-XS	160	28	27	.125	5⅝	11.40
PL8032	XG-25-XS	25	8	5	.171	2$\frac{1}{16}$	4.45
PL8033	XG-50-XS	50	15	11	.171	3$\frac{3}{16}$	8.20
PL8034	XG-110-XS	110	26	23	.171	5⅝	12.25
PL8020	XC-18-XS	19	8	5	.200	2$\frac{1}{16}$	5.70
PL8021	XC-40-XS	40	15	11	.200	3$\frac{3}{16}$	8.20
PL8022	XC-65-XS	65	20	17	.200	5	10.75
PL8023	XC-100-XS	100	28	25	.200	6⅝	13.30
PL8037	XK-55-XS	55	20	15	.230	5	12.65

"X" TYPE STANDARD DOUBLES

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Over End Plates	List Price
PL8018	XR-500-PD	500	18	21	.030	3$\frac{3}{16}$	$12.00
PL8068	XT-80-PD	80	11	9	.070	3$\frac{3}{16}$	8.00
PL8070	XT-210-PD	210	22	21	.070	5	11.00
PL8065	XP-90-KD	95	15	11	.084	3$\frac{23}{32}$	9.50
PL8066	XP-165-KD	165	23	19	.084	5⅝	13.90
PL8067	XP-325-KD	325	38	37	.084	10$\frac{3}{16}$	27.85
PL8061	XE-120-XD	120	19	17	.100	5⅝	12.65
PL8062	XE-240-XD	240	32	33	.100	10$\frac{3}{16}$	26.55
PL8060	XD-160-XD	160	28	27	.125	10$\frac{3}{16}$	24.05
PL8063	XG-50-XD	50	14	11	.171	5⅝	13.50
PL8064	XG-110-XD	110	27	21	.171	10$\frac{3}{16}$	22.75
PL8056	XC-40-XD	40	14	11	.200	6⅝	14.55
PL8057	XC-75-XD	75	21	19	.200	10$\frac{3}{16}$	19.00

"T" TYPE HEAVY DUTY TRANSMITTING CAPACITORS


TK-300-US
PL-9110

6¼" wide, 5⅜" high, plates unmeshed. Corona shields on stators for wider airgap types. End plates ⅛" thick, heavy nickel plated. Massive bearings, ⅜" stainless steel shafts; heavy, two finger phosphor bronze rotor contactor bears on sturdy contact ring built to carry very heavy current without power loss. Rotor plates 4½" diameter, .050" thick aluminum. Heavy mounting feet formed as part of end plates. Ball thrust rear bearing. Mycalex insulation.

SINGLE HEAVY DUTY TRANSMITTING CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Inside End Plates	List Price
PL9009	TJ-315-US	315	36	31	.168	8$\frac{1}{32}$	$40.50
PL9001	TC-200-US	200	35	23	.200	7	35.40
PL9002	TC-300-US	300	42	35	.200	10	40.50
PL9036	TK-300-US	312	53	39	.230	12$\frac{3}{16}$	47.00
PL9011	TL-50-US	45	15	7	.294	3$\frac{9}{16}$	20.90
PL9013	TL-80-US	85	24	13	.294	5⅝	26.55
PL9014	TL-100-US	98	26	15	.294	6$\frac{5}{16}$	27.85
PL9016	TL-160-US	160	40	25	.294	9¾	37.95
PL9019	TZ-40-RS	43	18	11	.500	7	30.35
PL9020	TZ-80-RS	83	32	21	.500	12½	40.50

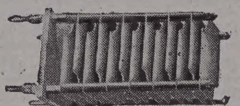
DOUBLE HEAVY DUTY TRANSMITTING CONDENSERS

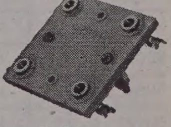
Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Inside End Plates	List Price
PL9026	TJ-150-UD	150	21	15	.168	8$\frac{1}{32}$	$40.50
PL9027	TJ-200-UD	211	30	21	.168	10¾	45.55
PL9021	TC-100-UD	112	20	13	.200	8$\frac{1}{32}$	39.20
PL9022	TC-160-UD	160	30	19	.200	11	43.00
PL9023	TC-200-UD	200	35	23	.200	13	48.05
PL9024	TC-250-UD	255	40	29	.200	16	53.15
PL9030	TL-50-UD	45	15	7	.294	6$\frac{5}{16}$	31.65
PL9031	TL-70-UD	70	19	11	.294	9	36.70
PL9033	TL-100-UD	98	26	15	.294	11$\frac{13}{16}$	43.65
PL9034	TL-160-UD	160	40	25	.294	18¾	55.65
PL9029	TKD-100-UD	110	30	21	.350	18¾	55.65
PL9035	TZ-40-RD	43	18	11	.500	13$\frac{9}{16}$	45.55

TYPE "J" PLUG-IN FIXED AIR CONDENSERS

For fixed capacity loading.

Plates easily removed. All "J" types have 2¼" square x ¼" Alsimag No. 196 ceramic end plates. Supplied with banana plugs to fit "JB" Jack Base. On special order provided with hexagonal brass mounting pillars and mounting screws for permanent installation.


JCO-50-OS
PL-9705


"JB" Jack Base
PL-5102

TYPE "J" PLUG-IN FIXED AIR CONDENSERS

Parts List No.	Type	Capacity	No. Plates	Air Gap	Length Overall	List Price
PL9705	JCO-50-OS	50 mmf.	13	.250	5⅜	$6.95
PL9704	JCO-25-OS	25 mmf.	7	.250	3¾	5.05
PL9703	JD-100-OS	100 mmf.	17	.125	4⅜	8.20
PL9702	JD-80-OS	80 mmf.	13	.125	4	6.95
PL9701	JD-50-OS	50 mmf.	8	.125	3$\frac{3}{16}$	5.05
PL9700	JD-25-OS	25 mmf.	4	.125	2½	3.55
PL9706	JR-750-OS	750 mmf.	33	.030	4⅝	11.15
PL9707	JKD-50-OS	50 mmf.	18	.350	8$\frac{3}{16}$	8.35

JACK BASE FOR "J" FIXED AIR CONDENSERS

Size: 2½" x 3½" x ¼". **Material:** Alsimag No. 196.
Complete with mounting posts, screws and nuts.
Type "JB" (PL-5102) .... **List Price $1.25**

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

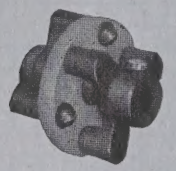
STANDARDS OF COMPARISON

INSULATED COUPLINGS

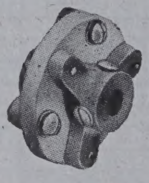
For isolating R.F. controls. Ceramic insulation (Alsimag No. 196). All flexible types have N.P. phosphor bronze springs, and heavy N.P. brass hubs, permanently swedged or spin riveted into the springs. Two fillister head, cup point, case hardened steel set screws in each hub insure positive lock to shaft.

All rigid types have improved three-point-spider construction, carefully machined solid brass castings, and are absolutely rigid.

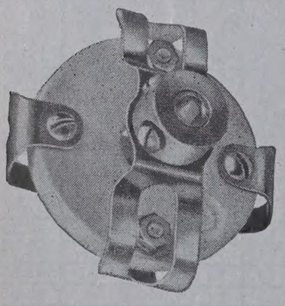
Flexible types C, D, E and F fit both ¼" diameter shaft or a ⅜" shaft by removing bushing supplied.



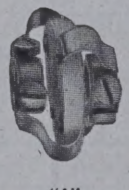
"ENF" Rigid Coupling
PL-5201



"FNF"
PL-5013



"C"
PL-5004



"A"
PL-5000

INSULATED COUPLINGS—Flexible

Parts List No.	Type	DIMENSIONS "A" (Width)	DIMENSIONS "B" (Length)	Peak Flashover	To Fit Shaft Diameter	List Price
5000	A	1 9/32″	¾″	3;700 V.	¼″	$0.75
5002	B	1 9/32″	1 3/32″	7,000 V.	¼″	.75
5202	AB	1 9/32″	29/32″	5,000 V.	¼″	1.00
5004	C	2⅝″	2 3/32″	13,500 V.	¼ & ⅜″	3.55
5006	D	2⅝″	1⅜″	9,000 V.	¼ & ⅜″	3.55
5008	E	2 1/16″	1¾″	10,000 V.	¼ & ⅜″	1.90
5010	F	2 1/16″	1 1/16″	5,000 V.	¼ & ⅜″	1.90

INSULATED COUPLINGS—Rigid

5014	CNF	2¼″	2 1/16″	12,000 V.	⅜″	4.45
5201	ENF	1⅜″	1 13/16″	10,000 V.	¼″	1.50
5013	FNF	1⅜″	15/16″	7,500 V.	¼″	1.25

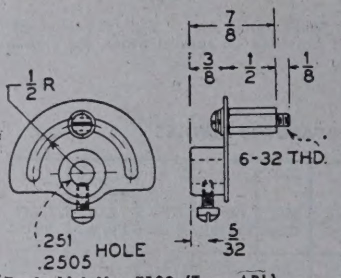
ACCESSORIES

"MIDWAY" MOUNTING FEET

Heavy aluminum, with 2 screws; for Midway condensers.
Parts List No. 5052...List (Pair) $0.25

INDUCTANCE CLIPS

For tapping air-wound inductors. Cadmium plated phosphor bronze spring clips for No. 12 or 14 wire. Thin blades prevent shorting turns. **Type 804-A. Parts List No. 5104........List Price $0.20**



ROTOR LOCK

For locking "X" standard or "M" Midway rotor shafts in position for fixed tune. Can be set behind panel or attached to any ¼" shaft, mounted directly on front of panel. Nickel plated brass; diameter 1½".

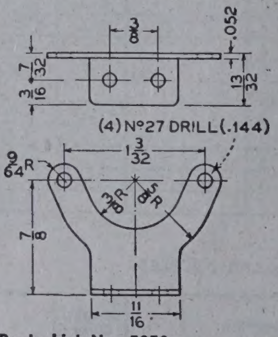
Parts List No. 5100 (Type ARL)...List Price $0.75

SHAFT LOCK PANEL BUSHING

Long panel bushing for ¼" shafts, has tapered nut for locking shaft in position. Fits ⅜" hole in panel. Complete with panel nuts. Nickeled brass.
Parts List No. 5055 (Type ALB)...List Price $0.40

TYPE "M" BRACKET

Use with type "N" U.H.F. duals or "M" Midway condensers. Turns condenser upside down for shortest plate leads in balanced R.F. amplifier. Regular mounting feet can be used to support a tank coil or jack base. Made of strong, satin finished, 1/16" aluminum, and supplied with proper screws and lock washers.
Parts List No. 5051...List Price, each $0.25



"TRIM-AIR" MOUNTING BRACKET

For dual and single Trim-air condensers. Insulated from rotor and stator; N.P. brass, with two screws and nuts.

Parts List No. 5050...List Price, each $0.20

"STANDARD" TYPE "X" MOUNTING FEET

Heavy nickel plated brass; for "X" transmitting types, with four screws.
Parts List No. 5053...List Price, pair $0.25

TRIM-AIR ACCESSORIES

As catalogued, Trim-Air singles are equipped for single hole mounting. Additional mounting accessories listed below are sold separately.

MOUNTING BRACKET—with 2 screws and nuts.
Parts List No. 5050 ....List Price $0.20

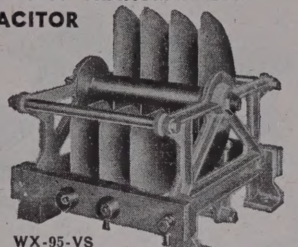
MOUNTING POSTS—(¼" hex. x ¾" long, tapped 6-32 N.P. brass). Pair, with screws and lockwashers.
Parts List No. 5054...List Price $0.25

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

STANDARDS OF COMPARISON

"W" TYPE HEAVY WEIGHT TRANSMITTING CAPACITOR


WX-95-VS
PL-9400

Without reservation, the "W" type construction, has been accepted for many years as the finest example of deluxe high power condenser design. Custom built by handcraftsmen, Cardwell type WX-95-VS, Part List No. PL-9400, is representative of other sizes which can be built to special order only. Quotations submitted on units to suit particular requirements, upon request.

GENERAL SPECIFICATIONS:

FRAME: Cast aluminum end plates with lacquered brass tie rods, ¾" in diameter.

SHAFT: ½" diameter stainless steel, press fitted into solid brass rotor barrel.

PLATES: ⅛" thick brass, edges milled and turned to perfect radius, buffed and polished—then lacquered.

BEARINGS: Steel, nickel plated, shoulder type front bearing with ball thrust rear bearing.

ROTOR CONTACT: 4 ply laminated phosphor bronze, self cleaning brush type bearing on heavy nickel silver disc riveted to end plate. Can be on front or rear end, or both.

ROTOR ASSEMBLY: ⅛" brass plates staked and soldered into milled slots in 1¾" diameter solid brass rotor barrel, then polished and lacquered.

STATOR ASSEMBLY: ⅛" brass plates staked and soldered into milled slots in massive brass stator blocks. Electrostatic shields on stators and corona cups on all stator studs minimize corona losses.

INSULATION: Mycalex (glass bonded mica). ¾" thick x 2" wide.

Specific for WX-95-VS (PL-9400)

AIRGAP: 1" between adjacent rotor and stator plates.

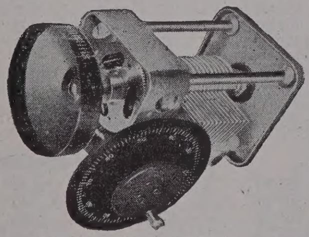
PEAK VOLTAGE FLASHOVER: 20 K.V. at 515 K.C.

CAPACITY: 100 mmfds. maximum—42 mmfds. minimum.

DIMENSIONS: L—14-3/16", W—15⅜", H—13-13/16".

LIST PRICE $292.00

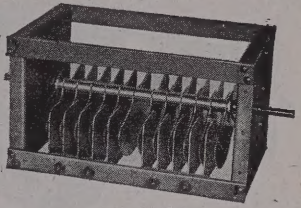
CARDWELL PRECISION CAPACITOR
Type No. 4.080


Frequency Meter Condenser
Pt. No. 4.080

Designed for frequency meters requiring maximum mechanical and electrical precision. Type No. 4.080 gear and worm driven capacitor incorporates special design features representing years of research and usage of this component in special measurement equipment which has successfully withstood most rigorous usage our armed forces could give it.

CAP. RANGE: Max. Cap. 220 mmfd., Min. Cap. 21 mmfd.
PLATE SHAPE: S.L.F.
DI-ELECTRIC SUPPORTS: Steatite.
BACKLASH: Negligible.
RESETTABILITY: To 10 parts in one million.
GEAR DRIVE: Precision split worm gear, equipped with precision ball bearings. Ratio—100 : 1 over 360 degrees.
DIALS: 3" DRUM: 50 divisions over 180° condenser rotation. 3" FAST RUNNING DIAL: Graduated 100 divisions, makes 1 revolution for each drum division. VERNIER RING: Divides each division on fast running dial into 10 parts.
DIMENSIONS: 5⅝" lg. (over drum dial) x 3⅛" deep x 3⅛" high.
WEIGHT: 1¾ lbs. (with cast aluminum frame).
ROTOR CONTACT: Silver plated phosphor bronze spring, with 2 silver contacts bearing on silver plated disc.
MOUNTING: 3 point, to bottom of main casting.
PRICE: Capacitor, Part No. 4.080, only, Special Quote. Drum dial, fast running dial and vernier ring extra and subject to special quotation.

TYPE "P" LIGHT HEAVY WEIGHT TRANSMITTING CAPACITORS


PK-125-QD
Special

Designed to accommodate capacitance values up to 150 mmfd. per section in a dual section type having an airgap of .500", the "P" type construction permits higher capacity for a given airgap, and therefore a shorter frame than the "T" type construction. Typical Cardwell sturdiness is built-in, and the "P" type is probably the lightest transmitting condenser built for its size, yet completely satisfactory for heavyweight use. No single section types are catalogued; parallel or series connect for double or half single section capacity listed in table.

GENERAL SPECIFICATIONS:

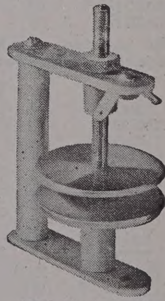
FRAME: End plates are ⅛" thick formed aluminum, satin finish.
SHAFT: ⅜" diameter, non-magnetic stainless steel, extended both front and rear end.
PLATES: .064" thick, rounded and buffed edges. Rotor plates are 6¾" in diameter.
BEARINGS: Heavy nickel plated brass front and rear shoulder bearings.
ROTOR CONNECTION: Heavy, two finger N.P. phosphor bronze wiper bears on ⅛" thick N.P. brass contact ring, at each end.
STATOR CONSTRUCTION: Plates permanently staked into slotted, rounded edge aluminum stator blocks.
INSULATION: Mycalex (glass bonded mica).
MOUNTING: 3 clearance holes for No. 10 screws in each *side* of each end plate permitting mounting on any side, as well as provision for mounting associated components such as inductance coil mountings, etc.

TYPE "P" LIGHT HEAVYWEIGHT DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Over End Plates	List Price
PL9208	PJ-750-QD	750	50	35	.168	20½	Special
PL9210	PK-200-QD	210	30	13	.230	$11\frac{27}{64}$	Special
PL9203	PKD-70-QD	70*	15*	7	.350	$9\frac{13}{16}$	$75.00
PL9204	PKD-100-QD	115	22	9	.350	$11\frac{27}{64}$	83.50
PL9205	PZ-50-QD	50*	15*	7	.500	11⅞	82.25
PL9206	PZ-70-QD	70*	20*	9	.500	14¼	87.90
PL9207	PZ-100-QD	91	23	11	.500	$16\frac{1}{16}$	100.00
PL9209	PZ-150-QD	150	40	19	.500	$24\frac{9}{16}$	125.00

* Estimated value.
Tolerance for maximum and minimum capacity values: ±10%.

DISC TYPE NEUTRALIZER


ADN. Neut. Conds.
PL-7118

For neutralizing low capacity transmitting triodes. Glazed steatite insulation. Polished aluminum discs. Fine screw thread adjustment in long nickel silver bearing—no wabble. Knurled thumb nut for easy locking. Heavy satin finish aluminum support and base plate.

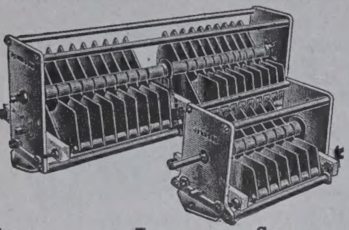
DISC TYPE NEUTRALIZING CONDENSERS

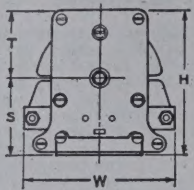
Item No.	Parts List No.	Type	Max. Cap.	Air Gap	Min. Cap.	Air Gap	List Price
1	PL7118	ADN	7 mmf.	.100"	1 mmf.	.700"	$3.80
2	PL7119	BDN	15 mmf.	.200"	3 mmf.	1.000"	6.35

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

TYPES C AND D CONDENSERS





Type	T	S	W	H
C	2 5/16	3 3/32	5½	5 13/32
D	1 27/32	2 5/32	4¼	4

Johnson C and D condensers are sturdily constructed to give trouble-free operation under the most severe service. Only the finest materials are employed, yet these units are lower in price than any other quality condensers. Although value is evident throughout the line the models designed for high power applications are particularly outstanding.

All dual models have center rotor connections to insure balanced operation at ultra-high frequencies.

Important features include: Heaviest plates of any similar condenser, .051" thick . . . Ultra-steatite insulation . . . Large laminated rotor brushes . . . Center rotor contacts on all dual condensers . . . Heavy 5/16" diameter tie rods, for frame strength and rigidity, insulated to prevent "Short circuit loops" . . . ¼" steel shafts, cadmium plated, extending 1½" in front, ¾" in rear permitting ganging or rear drive. Panel space Type D, 4¼" wide x 4" high Type C, 5½" wide x 5⅜" high.

TYPE C CONDENSERS SINGLE SECTION

Cat No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
250C70	240	31	.175"	23	6 13/16"	$18.00
500C70	496	56	.175"	47	12 7/32"	21.00
250C90	245	45	.250"	31	12 7/32"	17.00
350C90	343	63	.250"	43	14 27/32"	20.60
50C110	51	19	.350"	8	4 25/32"	9.00
100C110	102	30	.350"	17	8 19/32"	11.80
250C110	251	65	.350"	41	18 9/32"	20.80
50C130	50	23	.500"	10	7 23/32"	9.90
100C130	101	41	.500"	21	13 11/32"	14.10

TYPE C DUAL SECTION

Cat No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
200CD45	206	21	.125"	15	7 23/32"	17.50
300CD45	295	26	.125"	21	10 5/16"	21.50
200CD70	198	27	.175"	19	12 7/32"	21.00
300CD70	305	37	.175"	29	16 25/32"	27.00
150CD90	150	29	.250"	19	14 27/32"	22.00
200CD90	196	38	.250"	25	18 9/32"	26.50
50CD110	50	18	.350"	8	10 5/16"	14.50
65CD110	65	20	.350"	11	12 7/32"	16.50
100CD110	103	32	.350"	17	16 25/32"	21.50
50CD130	50	23	.500"	10	14 27/32"	16.75

.060 spacing supplied in either C or D types, also special capacities and spacings.

TYPE D SINGLE SECTION

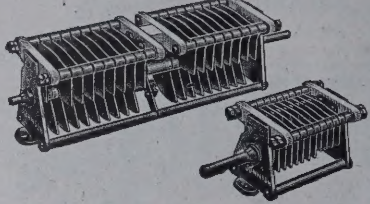
Cat No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
50D35	49	11	.080"	5	2 29/32"	5.00
100D35	100	14	.080"	8	2 29/32"	5.75
150D35	152	18	.080"	12	2 29/32"	6.50
250D35	257	24	.080"	20	4 25/32"	8.00
350D35	347	27	.080"	17	5 13/16"	9.50
500D35	501	36	.080"	39	6 13/16"	11.75
100D45	107	19	.125"	12	4 25/32"	6.75
150D45	152	27	.125"	17	4 25/32"	7.90
50D70	51	16	.175"	7	2 29/32"	6.50
70D70	72	18	.175"	11	4 25/32"	7.40
100D70	100	23	.175"	15	4 25/32"	8.25
150D70	151	31	.175"	23	6 13/16"	10.00
250D70	244	45	.175"	37	10 5/16"	13.50
350D70	351	62	.175"	53	13 11/32"	17.00
50D90	54	19	.250"	10	4 25/32"	7.00
70D90	73	24	.250"	14	5 13/16"	8.00
100D90	99	30	.250"	19	7 23/32"	9.00
150D90	149	43	.250"	29	10 5/16"	11.50
250D90	249	70	.250"	49	15⅞"	16.00

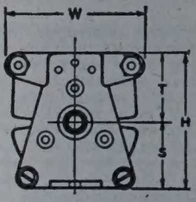
TYPE D DUAL SECTION

Cat No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
100DD35	99	12	.080"	8	4 25/32"	8.25
150DD35	151	15	.080"	12	5 13/16"	9.75
200DD35	202	19	.080"	16	7 23/32"	11.50
300DD35	291	23	.080"	23	9 15/32"	16.00
500DD35	504	37	.080"	39	13 11/32"	22.50
150DD45	155	22	.125"	18	9 15/32"	13.00
200DD45	200	29	.125"	23	12 7/32"	15.35
50DD70	50	13	.175"	8	5 13/16"	9.00
70DD70	72	16	.175"	11	7 23/32"	10.50
100DD70	99	21	.175"	15	9 15/32"	12.50
150DD70	151	31	.175"	23	13 11/32"	16.00
200DD70	200	40	.175"	30	16 25/32"	19.50
50DD90	52	18	.250"	10	9 15/32"	11.50
100DD90	97	29	.250"	19	14 27/32"	16.50

***Capacity per Section **Length Over End Plates**

TYPES E AND F CONDENSERS





Type	T	S	W	H
E	1 5/16	1 9/32	2⅝	2 19/32
F	1 1/32	31/32	2 1/16	2

Designed as rugged, compact units for medium and low power transmitters, type E and F condensers are in a class by themselves. Heavy (.032") plates, rounded and buffed . . . Heavy (¼") frame rods . . . Ultra-steatite insulation . . . Heavy, cadmium plated, phosphor bronze contact springs . . . and stators mounted above to reduce capacity to ground are outstanding features of these condensers. Front (1½") and rear (¾") shaft extensions permit ganging. In addition to the spacing shown .030" can also be supplied on special order.

TYPE E CONDENSERS SINGLE SECTION

Cat. No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
250E20	244	12	.045"	23	2 25/32"	$5.35
350E20	356	14	.045"	33	3 17/32"	6.35
500E20	495	18	.045"	45	4 15/32"	7.50
35E30	38	6	.075"	6	1 23/32"	3.80
50E30	51	7	.075"	8	1 15/16"	4.00
70E30	73	10	.075"	11	2 5/32"	4.30
100E30	100	10	.075"	15	2 9/16"	4.65
150E30	154	13	.075"	23	3 7/16"	5.40
250E30	250	19	.075"	37	4 15/16"	6.75
350E30	350	22	.075"	51	6 7/16"	8.10
35E45	38	8	.125"	9	2 5/16"	4.10
50E45	47	10	.125"	12	2 31/32"	4.35
70E45	75	13	.125"	17	3 9/16"	5.00
100E45	101	16	.125"	23	4 17/32"	5.60
150E45	145	20	.125"	33	6 3/32"	6.70
250E45	245	30	.125"	55	9 9/16"	9.10

TYPE E DUAL SECTION

Cat. No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
200ED20	206	10	.045"	19	5⅛"	8.25
300ED20	304	15	.045"	29	6 21/32"	9.95
50ED30	52	7	.075"	8	4 3/32"	5.95
70ED30	71	8	.075"	11	4 17/32"	6.50
100ED30	99	10	.075"	15	5⅜"	7.25
150ED30	152	11	.075"	23	7⅛"	8.70
200ED30	195	15	.075"	29	8⅜"	9.95
50ED45	51	9	.125"	12	6 5/32"	6.80
70ED45	73	11	.125"	17	7 7/16"	7.90
100ED45	100	15	.125"	23	9 9/32"	9.15

TYPE F SINGLE SECTION

Cat. No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
35F20	35	6	.045"	6	1½"	3.50
50F20	48	7	.045"	9	1 21/32"	3.70
70F20	67	8	.045"	11	1 27/32"	4.00
100F20	106	9	.045"	17	2¼"	4.50
150F20	156	12	.045"	25	2⅞"	5.25
250F20	255	18	.045"	41	4 3/32"	6.65
35F30	34	7	.075"	9	1⅞"	3.80
50F30	51	8	.075"	13	2 5/16"	4.15
70F30	68	10	.075"	17	2 25/32"	4.60
100F30	102	13	.075"	25	3 19/32"	5.30
150F30	150	18	.075"	37	4⅞"	6.40

TYPE F DUAL SECTION

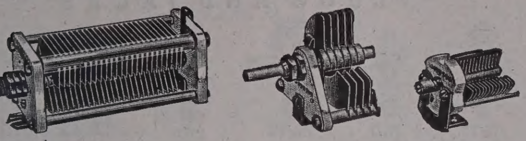
Cat. No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
50FD20	47	6	.045"	9	3½"	5.75
70FD20	67	7	.045"	11	3 27/32"	6.25
100FD20	105	9	.045"	17	4¾"	7.30
150FD20	155	10	.045"	25	6"	8.50
200FD20	207	13	.045"	33	7 7/32"	10.00
50FD30	51	7	.075"	13	4 27/32"	6.70
70FD30	67	10	.075"	17	5 23/32"	7.45
100FD30	101	11	.075"	25	7 7/16"	8.95

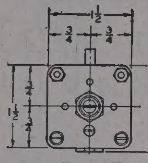
***Capacity per section **Length Over End Plates**

GENERAL CONDENSER INFORMATION

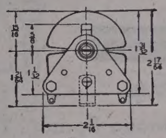
The first part of the catalog number indicates the capacity in mmfd. The following letter indicates the frame size or type, and if a dual condenser the second letter D indicates this. The final number multiplied by 100 is the approximate breakdown voltage. Since many conditions, such as altitude, humidity, and frequency, also influence this factor, this figure is only approximate. The maximum and minimum capacity for the dual condenser applies only to one section. In series maximum will be slightly more than one-half and minimum approximately two-thirds.

TYPE H, G, AND J CONDENSERS

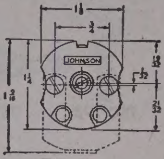




Type H



Type G



Type J

Type H Condensers

The Type H Condenser was designed for aircraft transmitters and combines a minimum of weight and size with simple but rugged construction. Extremely small panel space, .020" plates, and universal mounting brackets make this one of the most popular condensers in the line.

TYPE H CONDENSERS SINGLE SECTION

Cat. No.	Capacity* Max.	Capacity* Min.	Spacing	Number Plates	Length**	List Price
25H15	24	4	.030"	5	11/16"	$2.20
35H15	35	5	.030"	7	25/32"	2.25
50H15	52	6	.030"	11	7/8"	2.35
70H15	71	7	.030"	15	1 3/16"	2.45
100H15	101	8	.030"	21	1 1/2"	2.60
150H15	150	9	.030"	31	2 13/32"	3.45
250H15	250	11	.030"	51	3 13/32"	3.95
25H30	26	8	.080"	13	2 3/16"	2.85
35H30	35	9	.080"	17	2 1/2"	2.95
50H30	50	10	.080"	25	3 13/32"	3.30
70H30	70	12	.080"	35	4 13/32"	3.75
TYPE H DUAL SECTION						
35HD15	35	5	.030"	7	1 11/16"	4.60
50HD15	52	6	.030"	11	2 3/32"	4.85
70HD15	71	7	.030"	15	2 1/2"	5.05
100HD15	101	8	.030"	21	3 3/32"	5.40
35HD30	35	9	.080"	17	4 13/32"	5.30
50HD30	50	12	.080"	25	6"	5.80

***Capacity per Section **Length Over End Plates**

NOTE: 25H15 to 100H15 inclusive have single end plates.

Type J Condensers

The type J condenser is a midget with big condenser characteristics. Wider spacing than most small types makes it ideal for oscillator and low power amplifier stages. It can be used in conjunction with Johnson tube socket type inductors to provide an extremely compact tank unit. Universal brackets make possible a variety of mountings.

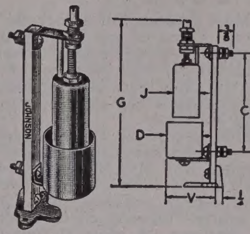
Cat. No.	Capacity Max.	Capacity Min.	Spacing	Number Plates	Length	List Price
7J12	7	2	.025"	3	25/32"	$1.65
15J12	15	2.5	.025"	6	7/8"	1.70
25J12	28	3.5	.025"	10	1 1/32"	1.90
50J12	55	4.3	.025"	19	1 3/8"	2.05
75J12	74	5	.025"	26	1 11/16"	2.30
100J12	102	7	.025"	36	2 3/32"	2.55

Type G Condensers

The type G condenser is extremely popular as a neutralizing condenser for medium and low power stages. Universal mounting brackets, simplicity in construction, together with a wide range of capacities and spacings, make it adaptable to many applications. Features include a single end plate of ultra-steatite, low minimum capacity, .032" plates, locking nut, and front and rear shaft extension.

Cat. No.	Capacity Max.	Capacity Min.	Spacing	Number Plates	Length	List Price
25G20	27	3.5	.045"	5	29/32"	$2.75
50G20	52	5	.045"	9	1 7/32"	3.10
8G45	7.5	3	.125"	3	1"	2.55
13G45	13	4.3	.125"	5	1 5/16"	2.75
23G45	23	6.3	.125"	9	1 15/16"	3.10
6G70	5.5	3	.225"	3	1 1/4"	3.30
12G70	12	5.3	.225"	7	2 5/16"	4.15

TYPE N CONDENSERS



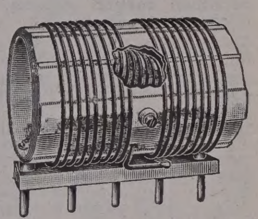
Small mounting space requirements, extremely high voltage rating in proportion to size, fine adjustment with uniform voltage breakdown throughout the full capacity range, and low cost make these neutralizing condensers ideal for the modern transmitter. "Plates" are aluminum cups supported on an ultra-steatite frame with cast aluminum mounting bracket.

Because of the design these condensers will stand much higher voltage than conventional flat plate condensers of the same spacing.

Type N125 for plate voltages up to 1500 volts, plate modulated; type N250 for plate voltages up to 2500 volts, plate modulated; type N375 for plate voltages up to 3500 volts, plate modulated. This is not to be confused with peak voltage ratings which are several times those shown.

Cat. No.	Capacity Max.	Capacity Min.	DIMENSIONS J	D	C	G	V	Spacing	List Price
N125	12	2.5	1	1.375	3 1/8	6 13/32	1 15/16	.125"	$4.50
N250	12	2.9	1.125	1.73	3 3/4	7 17/32	2 9/32	.250"	4.90
N375	13	3.4	1.375	2.25	4 3/8	8 23/32	2 27/32	.375"	6.00

ROTATING COIL "HI-Q" INDUCTORS



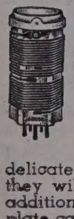
Johnson Hi-Q inductors were designed for optimum LC ratios. The highly glazed porcelain coil form includes ribs which insure a minimum of contact between the wire and the insulating form. Losses involved in this type of construction are a minimum and yet provide a rigid unit which cannot be damaged by careless handling. Floating Jacks in the mounting bar insure perfect contact. Two sizes are provided and both are available either with or without the rotating coupling coil. On the higher frequency bands the coupling coils are adequate for working directly into a 600 ohm open wire line, while on the lower frequency bands couplings may easily be made into a 70 ohm line or an antenna tuner.

Cat. No.	Band (Meters)	Cap.* mmf.	Coupling	Dimensions LxD	Watts Input	List Price
660	10	26	Rotary	4 1/16"x2"	350	$3.75
661	20	33	Rotary	4 1/16"x2 1/2"	350	3.95
662	40	40	Rotary	4 1/16"x2 1/2"	350	4.10
663	80	75	Rotary	4 1/16"x2 1/2"	350	4.25
664	160	150	Rotary	4 1/16"x2 1/2"	350	4.40
670	10	26	None	4 1/16"x2"	350	1.95
671	20	33	None	4 1/16"x2 1/2"	350	2.10
672	40	40	None	4 1/16"x2 1/2"	350	2.20
673	80	75	None	4 1/16"x2 1/2"	350	2.30
674	160	150	None	4 1/16"x2 1/2"	350	2.40
666	Form only			4 1/16"x2"		.80
667	Form only			4 1/16"x2 1/2"		.85
668	Ultra-steatite Plug Strip for 666 and 667					1.00
669	Ultra-steatite Jack Base for Mounting above Inductors					1.00
680	10	26	Rotary	6 3/4"x2 3/4"	1000	5.20
681	20	26	Rotary	6 3/4"x3 1/2"	1000	5.55
682	40	42	Rotary	6 3/4"x3 1/2"	1000	5.75
683	80	70	Rotary	6 3/4"x3 1/2"	1000	5.90
684	160	140	Rotary	6 3/4"x3 1/2"	1000	6.00
690	10	26	None	6 3/4"x2 3/4"	1000	3.00
691	20	26	None	6 3/4"x3 1/2"	1000	3.25
692	40	42	None	6 3/4"x3 1/2"	1000	3.40
693	80	70	None	6 3/4"x3 1/2"	1000	3.50
694	160	140	None	6 3/4"x3 1/2"	1000	3.65
686	Form only			6 3/4"x2 3/4"		1.45
687	Form only			6 3/4"x3 1/2"		1.55
688	Ultra-steatite Plug Strip for 686 and 687					1.50
689	Ultra-steatite Jack Base for Mounting above Inductors					1.50

* Total Circuit Capacity required to effect resonance at low frequency end of band. Actual condenser capacity will be smaller by the sum of the tube out-put and wiring capacities, generally between 5 and 20 mmf.

For Edgewise Wound Inductors see next page.

TUBE-SOCKET "HI-Q" INDUCTORS



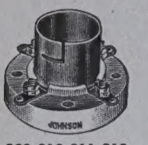
These inductors were designed to plug into a four or five prong tube socket such as Johnson Nos. 224 or 225. They are available for all bands with either center or end links. Those with center links are center tapped for split stator circuits. The forms are composed of glazed high grade porcelain and provided with ribs so that a negligible portion of the winding is in contact with the insulating form. Used with the type J condenser mounted inside, they make excellent tank units for oscillator and low power stages. Rugged in construction, there is no danger of damaging a delicate winding by careless handling. Wound of heavy wire they will safely handle powers of 100 watts or less. Convenient additional terminal at top for plate connection to tubes with plate cap. All sizes use coil forms 1 3/4" in diameter and 3 3/4" high.

Cat. No.	Band (Meters)	Cap. mmf.	Coupling	Watts Input	List Price
640	10	24	Link at Center	100	$1.65
641	20	33	Link at Center	100	1.65
642	40	37	Link at Center	100	1.65
643	80	71	Link at Center	100	1.65
644	160	130	Link at Center	100	1.65
650	10	36	Link at Bottom	100	1.55
651	20	58	Link at Bottom	100	1.55
652	40	70	Link at Bottom	100	1.55
653	80	75	Link at Bottom	100	1.55
654	160	110	Link at Bottom	100	1.55
646	Form Only, Four Prong				.80
647	Form Only, Five Prong				.80

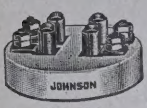
E. F. JOHNSON Company

WASECA, MINNESOTA

TUBE SOCKETS



209-210-211-216



213-214

"The World's Most Famous Tube Sockets," a title earned over years of top quality in material, workmanship and design, cover nearly every transmitting tube requirement. Johnson sockets are specified by exacting users wherever conditions are most severe, as in Government services.

No. 209 is similar to No. 210 but provides greater spacing between contacts and shell, for higher voltages. No. 211, the standard "50 watt" socket, has double filament contacts for carrying heavy currents. No. 216 is for "jumbo 5 prong" tubes such as 204A, 849, etc., and features a plate terminal "safety cup." 210F and 211F are for front of panel mounting and are enclosed in lustrous black finished aluminum housings.

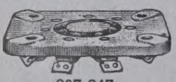
EIMAC 152TL and 304TL tubes take the new 213 socket, and EIMAC 1500TH etc., take the new 214 (with air jet for cooling filament seal).

All contacts are heavy, side wiping type, phosphor bronze, with choice of beryllium copper in most cases: shells, where used, are heavy brass, nickel plated; bases of excellent white porcelain, with steatite (Gov't grade G) optional.

Explanation of catalog number. No letter suffix indicates porcelain base and phosphor bronze contacts. Letter **B** indicates **beryllium copper** contacts. Letter **S** indicates **steatite** base (Government Grade G).

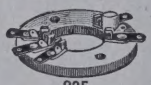
Cat. No.	Base	List Price	Cat. No.	Base	List Price
209	"UX"	$0.95	211SB	"50 watt"	$3.00
209B	"UX"	1.10	211F	"50 watt"	3.50
209S	"UX"	1.85	213	"Eimac"	1.50
209SB	"UX"	2.00	214	"Eimac"	2.50
210	"UX"	.85	215	"250 watt"	3.50
210B	"UX"	1.00	216	"5 prong"	2.50
210F	"UX"	2.50	216B	"5 prong"	3.00
211	"50 watt"	1.25	216S	"5 prong"	4.25
211B	"50 watt"	1.60	216SB	"5 prong"	4.75
211S	"50 watt"	2.70			

WAFER SOCKETS



237-247

217-224-225-226-227-228



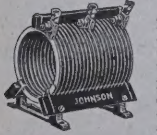
235

Johnson ceramic wafer sockets are insulated with steatite (Gov't grade G, wax impregnated) making them excellent for use at high and ultra-high frequencies. Contacts are cadmium plated, reinforced with cadmium plated steel springs, recessed in the form to prevent movement. All metal parts are countersunk and mounting holes bossed to permit mounting on metal panel without shorting.

No. 235 acorn socket has silver plated beryllium copper contacts mounted on bosses, providing long leakage paths. No. 237 is a socket for the HK 257 and RCA 813 tubes and No. 247 for the RCA 829 and 832 tubes is similar, with an aluminum tube shield.

Cat. No.	Base	List Price	Cat. No.	Base	List Price
224	4 prong	$ .55	228	Octal	$ .70
225	5 prong	.60	235	Acorn	1.25
226	6 prong	.60	237	7 prong	1.25
227	7 pr. large	.65	247	7 prong	1.75
217	7 pr. small	.65			

EDGEWISE WOUND "HI-Q" INDUCTORS

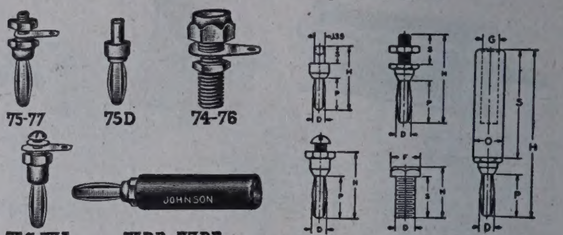


Wound with plated edgewise copper strip and supported by low-loss hard rubber insulation, these inductors present a very commercial appearance and safely handle up to 1000 watts. Sizes for all bands and for impedance matching networks. Also available on special order with Mycalex or Bakelite insulation. Other edgewise wound inductors are listed in the Commercial Catalog.

Cat. No.	Band (Meters)	Cap.* mmf.	Coupling	Dimensions LxD	Watts Input	List Price
610	33 mh impedance matching			7 3/4"x2 1/2"	1000	$5.45
611	14 mh impedance matching			4" x2 1/2"	1000	3.60
620	160	100	None	9" x4"	1000	6.75
622	80	50	None	6 1/2"x3 1/4"	1000	5.15
624	40	25	None	6" x3 1/4"	1000	4.20
626	40	50	None	5" x2 1/2"	1000	3.50
628	20	30	None	4 3/4"x2 1/2"	1000	3.00
619	20 mh coupling inductor			3 1/4"x4"	1000	3.35
623	8.1 mh coupling inductor			2 1/4"x3 1/4"	1000	2.75
627	2.2 mh coupling inductor			1 1/2"x2"	1000	2.40
LC4	Connector Clips for above inductors					.20

*Total circuit capacity required to effect resonance at low frequency end of band. Actual condenser capacity will be smaller by the sum of the tube out-put and wiring capacities, generally between 5 and 20 mmf.

PLUGS AND JACKS



"Banana Spring" TYPE

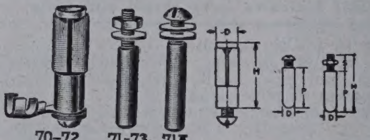
Nickel-silver springs, and high-grade nickeled brass screw machine parts with accurate threads and milled nuts. Studs extend full length of springs.

75C is a tapped plug with 5/16" 6-32 machine screw in head. 75D is designed for riveting or soldering. Spring is of beryllium copper.

75BB has 1 3/8" black insulated handle; 75 BR same but red. 77BB has 1 3/4" black insulated handle; 77BR same but red.

Cat. No.	Dimensions						Thread	List Price
Plugs	S	P	D	H	G	O		
75	3/8	.53	.170	1.115			6-32	$0.07
75A	3/4	.53	.170	1.490			6-32	.07
75BB	1 3/8	.53	.170	2.115	.215	7/16		.15
75BR	1 3/8	.53	.170	2.115	.215	7/16		.15
75C		.53	.170	.94			6-32 Screw	.08
75D	7/32	.40	.155	.81				.08
77	5/8	.74	.300	1.77			1/4-28	.20
77A	5/8	.74	.300	1.15			10-32 Screw	.25
77BB	1 3/4	.74	.300	2.90	5/16	5/8		.35
77BR	1 3/4	.74	.300	2.90	5/16	5/8		.35
Jacks		F	D	S	H			
74		3/8	1/4	17/32	5/8		1/4-28	.06
76		9/16	3/8	15/16	1 9/32		3/8-24	.25
76A		1 3/8" Body					1/4-20 Screw	.25

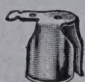
"Spring-Sleeve" TYPE



These jacks have maximum current carrying capacity, minimum resistance, great mechanical strength, and snug fit. Tension is maintained by phosphor bronze "spring sleeves."

Cat. No.	Dimensions				Thread	List Price
Plugs	D	S	P	H		
71	.375	1/2	1 1/8	1 5/8	1/4-28	$0.14
73	.250	3/8	15/16	1 5/16	10-32	.07
73A	.250		15/16		10-32 Screw	.07
Jacks						
70	1/2			1 1/2	1/4-20 Screw	.35
72	3/8			1 1/8	10-32 Screw	.25

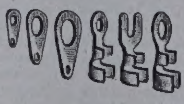
TUBE CAPS



Tube caps of phosphor bronze, cadmium plated, for transmitting use. Provide positive grip and low resistance contact. Formed on one piece there are no mechanical joints to corrode and cause resistance.

Cat. No.	List
852—Medium, for 802, etc.	$0.05
854—Large, for 866, etc.	.10

TINNED COPPER SOLDERING TERMINALS

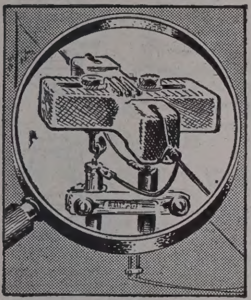


Available in six sizes, Johnson soldering terminals meet the requirements of most applications. Composed of copper for low resistance, they are tinned to permit easy soldering. Composed of heavy material and accurately formed these terminals are far superior to most products.

Cat. No.	List Price per 100
880—9/16" long, 6—32 hole	$0.40
881—13/16" long, 1/4" hole	.53
882—1" long, 3/8" hole	1.25
883—15/16" long, No. 10 hole	1.85
884—1" long, No. 10 spade	2.05
885—1 1/16" long, 1/4" hole	3.25

E. F. JOHNSON Company WASECA, MINNESOTA

THE JOHNSON "Q" AND JOHNSON "Q" BEAM



The phenomenal results obtained by the thousands of users of the Johnson Q antenna system are due to the extremely high efficiency of this famous antenna. Applications include half-wave doublet, either horizontal or vertical, harmonic or "long wire" radiator, radiator-reflector, radiator-director, "V" Beam, Johnson Q Beam and others. All of these systems, including complete technical details, are described in the JOHNSON-BASSETT ANTENNA HANDBOOK listed on page seven.

The Johnson Q Beam is a special application of the Q system. It consists of two half-wave Q antennas spaced 1-5 wave and Q sections connected in parallel at the bottom. In ordering specify two QS antennas for the **lower frequency** of the two bands desired. For example if you want a Q Beam to operate on 10 and 20 meters, order two Johnson Qs for 20 meters.

COMPLETE "Q" SYSTEMS

Cat. No.	Band (Meters)	List Price
5QS	5	$7.00
5QM	5	10.00
10QS	10	8.65
20QS	20	14.50
40QS	40	26.00

"S" indicates straight tubing.

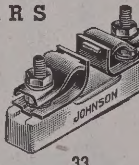
ALUMINUM "Q" TUBING

Cat. No.	Lengths	Band	List Price
ST5	2—4' 3"	5	$ 2.45
ST10	2—8' 6"	10	4.20
ST20	4—8' 6"	20	$ 9.20
ST40	8—8' 6"	40	18.40

"Q" SPACING BARS

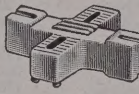
Made of dense, highly vitrified white glazed porcelain, with aluminum tubing clamps. Used for spacing tubing in matching transformer applications. Clamps are arranged so spacing is continuously variable from zero to four inches.

No. 33—Spacing Bar..........................**List $0.30**



33

"Q" SUSPENSION ASSEMBLY

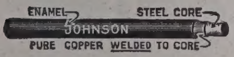


106

Includes new type insulator and all necessary hardware for connecting "Q" matching section to antenna and transmission line. Insulator may also be used to bring off "Zepp" feeders from the flat top.

Cat. No.	List Price
39—Suspension Assembly	$1.90
106—Antenna-Feeder Insulator only	.60

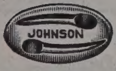
ENAMELLED COPPERWELD ANTENNA WIRE



Johnson Enameled Copperweld Antenna Wire is the ideal material for any system where the wire must not stretch nor sag. The steel core provide almost three times the strength of ordinary copper wire, the copper coating provides low RF resistance, and the enamel prevents corrosion. **Prices are per 100 feet.** Carried by most suppliers in bulk, it is available from the factory in any specified length.

Cat. No.	B&S Gauge	Feet per lb.	Breaking Strength	List Price
346	8	22	1700 lbs.	$4.25
348	10	34½	1130 lbs.	2.75
350	12	54	720 lbs.	1.90
352	14	85	400 lbs.	1.25

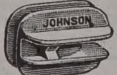
STRAIN INSULATORS



30-32

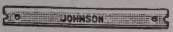
Numbers 30 and 32 are ideal for ordinary application requiring a sturdy insulator at a low price. Number 38 provides an extremely long leakage path and was intended for high voltage application. All are of white glazed low absorption porcelain. Particularly useful in breaking up guy wires where good insulation and light weight is essential. Keep several on hand for emergencies.

Cat. No.	Length	List Price
30	2"	$0.11
32	1½"	.08
38	1½"	.15

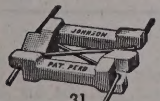


38

FEEDER INSULATORS



132-134-136

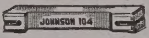


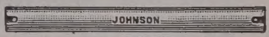
31

Numbers 132, 134 and 136 are conventional feeder spreaders having a cross-section of ⅜" x ½" and No. 132 is also provided with notches for 1½" line spacing. Number 31 Transposition insulator makes possible crossing over the transmission line at frequent intervals to prevent radiation and provide 2" line spacing. All insulators are of high grade low absorption glazed porcelain.

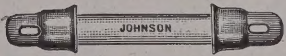
Cat. No.	Length	List Price
132	2"	$0.15
134	4"	.20
136	6"	.25
31		.16

ANTENNA INSULATORS





107-112-120



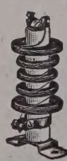
151-152-153

These insulators are of genuine WET PROCESS porcelain, with smooth white glazing. The all-porcelain types are 1" in diameter. Their long leakage path, low capacity, and freedom from moisture absorption result in exceptional efficiency. The Commercial Type is 1½" in diameter, for uses where much greater strength is necessary. End fittings are of non-corrosive aluminum alloy. No. 104 is a dry process 4" antenna insulator, ⅝" square for service where the strength of the 1" types is not required.

Cat. No.	Break Strength	Length	List Price
104	400 lbs.	4"	$0.20
107	800 lbs.	7"	.70
112	800 lbs.	12"	.90
120	800 lbs.	20"	1.50

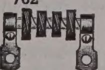
Cat. No.	Break Strength	Net	Overall	List Price
151	5000 lbs.	8"	15½"	$9.00
152	5000 lbs.	12"	19½"	10.75
153	5000 lbs.	20"	25½"	15.00

RADIO FREQUENCY CHOKES

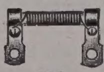


752-754-762

Uniformly flat in response, Johnson R.F. chokes are equally effective over the entire range for which they are designed. Coils are of enameled silk-covered wire impregnated with high grade R.F. lacquer, and are wound on steatite cores. Current ratings are for continuous service and may be increased for intermittent use.



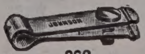
750



760

Cat. No.	Frequency	Current Rating	Lgth.	List Price
750	1.7 to 30 mc	150 ma	1½	$0.70
752	1.7 to 30 mc	500 ma	2⅞	1.25
754	1.7 to 30 mc	750 ma	4 5/16	2.15
760	Ultra-high	250 ma	1½	.55
762	Ultra-high	1500 ma	2⅞	.80

INDUCTOR CLIPS

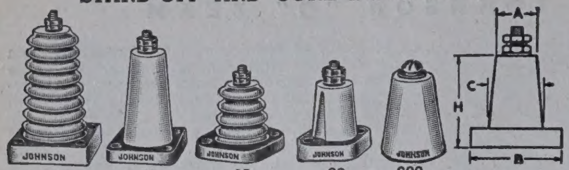


860

Phosphor bronze, cadmium plated with clamping screw and integral solder loop. The only clip taking wire from No. 20 to No. 10, without danger of tilting and shorting adjacent turns.

No. 860—Clip...**List $0.10**

STAND-OFF AND CONE INSULATORS



60 66 65 20 600

Available in a variety of shapes and sizes all are composed of superior white glazed porcelain except the 500 series which is Alsimag 196. Numbers 65, 66, 67 and 68 are equipped with metal bases which are available either in cadmium plated steel or lacquered brass. Porcelain cones in 600 series have threaded brass inserts, far superior to poorly fitting porcelain threads.

STAND-OFF INSULATORS

Dimensions

Cat. No.	A	B	C	H	Hardware	List Price
			All Porcelain Types			
20	3/4	1 3/4	15/16	1 9/16	10-32	$0.14
20J	3/4	1 3/4	15/16	1 9/16	74 Jack	.18
22	15/32	1 5/32	5/8	1	8-32	.10
22J	15/32	1 5/32	5/8	1	74 Jack	.14
24	3/8	1	7/16	5/8	6-32	.08
60	1 1/8	2 1/2	1 7/8	4 1/2	1/4-20	.65
62	15/16	1 7/8	1 5/16	2 3/4	1/4-20	.40
			Metal Base Types			
65	5/8	1 1/8	7/8	1 3/8	10-32	.25
65B*	5/8	1 1/8	7/8	1 3/8	10-32	.30
65J	5/8	1 1/8	7/8	1 3/8	74 Jack	.30
66	15/16	1 3/4	1 1/4	2 3/4	1/4-20	.40
66B*	15/16	1 3/4	1 1/4	2 3/4	1/4-20	.50
66J	15/16	1 3/4	1 1/4	2 3/4	76 Jack	.55
67	1 1/16	2 1/4	1 3/4	4 1/2	1/4-20	.60
67B*	1 1/16	2 1/4	1 3/4	4 1/2	1/4-20	.70
67J	1 1/16	2 1/4	1 3/4	4 1/2	76 Jack	.80
68	23/32	1 5/8	1 1/16	2	10-32	.30
68B*	23/32	1 5/8	1 1/16	2	10-32	.40
68J	23/32	1 5/8	1 1/16	2	74 Jack	.35

* "B" suffix indicates Brass Base.

CONE INSULATORS

Cat. No.	A	B	C	H	Hardware	List Price
			Porcelain			
600	7/16	5/8		5/8	6-32	.14
601	1/2	3/4		1	8-32	.16
601J	1/2	3/4		1	74 Jack	.22
602	1/2	1		1 1/2	8-32	.20
602J	1/2	1		1 1/2	74 Jack	.25
603	5/8	1 1/8		2	10-32	.25
603J	5/8	1 1/8		2	74 Jack	.30
604	3/4	1 1/2		3	10-32	.35
604J	3/4	1 1/2		3	76 Jack	.50
			Ultra-Steatite			
500	7/16	5/8		5/8	6-32	.20
501	1/2	3/4		1	8-32	.30
502	1/2	1		1 1/2	8-32	.55
503	5/8	1 1/8		2	10-32	.80
504	3/4	1 1/2		3	10-32	1.30

BRASS BASES

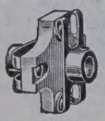
JOHNSON
JOHNSON

866-867 865

For outside use, particularly under corrosive conditions, lacquered brass bases are recommended, if necessary for replacement, on Numbers 65, 66, 67 and 68 insulators.

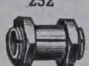
Cat. No.	For Use With	List Price
865	65	$0.07
866	66-68	.10
867	67	.12

SHAFT COUPLINGS



250-251

252



258

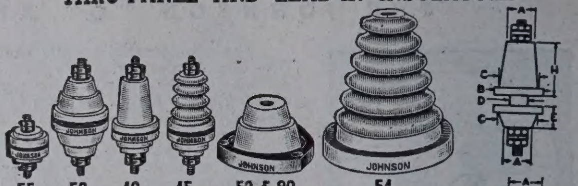
Flexible coupling units insulated with Ultra-steatite are available in two sizes, No. 250, 1 3/8" diameter and No. 251, 2 1/4" diameter. Flexibility is obtained by cadmium plated phosphor bronze spring with no backlash.

No. 252 is an improved solid insulated coupling of Ultra-steatite for 1/4" shaft. Long leakage path and accurate alignment of hubs are outstanding features.

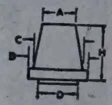
No. 258 cadmium plated brass compression shaft coupling will not burr shaft and is much stronger than set screw type. Ideal for coupling together 1/4" shafts where they need not be insulated.

Cat. No.	Shaft	Diameter	List Price
250	1/4"	1 3/8"	$0.80
251	3/8"	2 1/4"	1.40
251A	1/4"	2 1/4"	1.40
251B	1/4" & 3/8"	2 1/4"	1.40
252	1/4"	11/16"	.75
258	1/4"	1/2"	.15

THRU-PANEL AND LEAD-IN INSULATORS



55 50 40 45 53 & 90 54



All types are composed of high quality white glazed porcelain except No. 55 which is Alsimag 196. Numbers 53 and 54 are single porcelain bushings without hardware. See below for mounting flanges and threaded brass rod to meet your individual requirements. All other types are complete with hardware.

THRU-PANEL INSULATORS

Dimensions

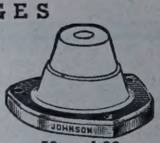
Cat. No.	A	B	C	D	E	H	Hardware	List Price
40	19/32	15/16	23/32	7/16	1/2	1 1/4	10-32	$0.30
40J	19/32	15/16	23/32	7/16	1/2	1 1/4	74 Jack	.35
42	1/2	3/4	19/32	.400	3/8	7/8	10-32	.23
42J	1/2	3/4	19/32	.400	3/8	7/8	74 Jack	.28
44	3/8	5/8	15/32	.305	5/16	5/8	6-32	.18
45	5/8	1 1/4	7/8	1/2	11/16	1 3/8	10-32	.40
45J	5/8	1 1/4	7/8	1/2	11/16	1 3/8	74 Jack	.45
46	15/16	1 5/8	1 1/4	11/16	1	2 3/4	1/4-20	.65
46J	15/16	1 5/8	1 1/4	11/16	1	2 3/4	76 Jack	.80
47	1 1/16	2 1/8	1 3/4	31/32	1 1/2	4 1/2	1/4-20	1.05
47J	1 1/16	2 1/8	1 3/4	31/32	1 1/2	4 1/2	76 Jack	1.25
48	23/32	1 5/8	1 1/16	5/8	7/8	2	10-32	.45
48J	23/32	1 5/8	1 1/16	5/8	7/8	2	74 Jack	.50

LEAD-IN BUSHINGS

Cat. No.	A	B	C	D	E	H	Hardware	List Price
50	3/8	3/4	21/32	15/32		1/2		.20
51	5/8	1 1/4	1 1/16	27/32		13/16		.35
52	7/8	1 3/4	1 1/2	1 7/32		1 1/8		.50
53	1 1/16	2 1/2	2	1 27/32		1 3/4		.30
54	1	3 1/2	2 7/8	2 11/16		4		.70
55	1/2	3/4	1/2	15/32		1/4		.25

MOUNTING FLANGES

Mounting Flanges of cast aluminum for Lead-In Bushings 53 and 54.



53 and 90

Cat. No.	For Bushing No.	List Price
90	53	$0.30
91	54	.60

THREADED BRASS ROD

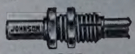
240-241-242

Used with stand-off and thru-panel insulators for making lead-in bushings, and for other purposes. 1/4" diameter, threaded 1/4-20. Nickel plated. Complete with 4 nuts and washers.

Cat. No.	Length	List Price
240	8"	$0.35
241	10"	.45
242	15"	.55

PANEL BEARINGS

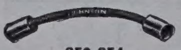
Cadmium plated brass, for 1/4" shaft and up to 3/8" panels. Also with 3" and 6" cadmium plated brass shafts.



255

Cat. No.	List Price
255—Panel Bearing	$0.15
256—Bearing and 3" shaft	.30
257—Bearing and 6" shaft	.40

FLEXIBLE SHAFTS



253-254

Phosphor bronze, non-rusting, with 1/4" hubs. Permit out-of-line or up to 90 degree angular control.

Cat. No.	Length	List Price
253	3"	$0.35
254	6"	.50

HANDLE INDICATORS

Highly attractive although low in price these solid molded Bakelite controls will enhance the appearance of any equipment. No. 204 fits 1/4" shafts and has 4" scale. No. 206 fits 1/4" shaft, has removable bushing for 3/8" shaft, and 6" scale.

Cat. No.	List Price
204—Handle Indicator	$1.00
206—Handle Indicator	1.25

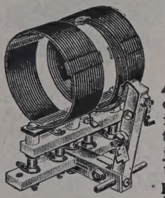
B&W VARIABLE LINK AIR INDUCTORS

BARKER & WILLIAMSON • UPPER DARBY, PA.

SWINGING LINK ASSEMBLIES

TYPE BVL

100 WATTS RATING



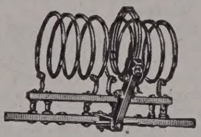
A small, unusually compact, highly efficient Assembly designed for direct mounting on condenser. Ideal for low powered transmitters and exciter stages or in conjunction with B & W Type BL coils in interstage coupling. Six interchangeable plug-in coils provide a complete range, from 5 to 160 meters.

Type	*Capacity MMfd.	Inductance Microhenrys	Net Price
160BVL	100	78	$2.31
80BVL	54	38	2.09
40BVL	40	13	1.82
20BVL	25	5.0	1.60
10BVL	18	1.7	1.54
5BVL	16	0.6	1.49

BVL ASSEMBLY—includes swinging link and jack bar . $2.75

TYPE TVH

500 WATTS RATING

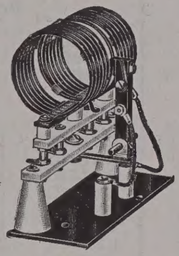


"Best yet" for those 500-watt rigs! With TVH's you obtain the same high measure of efficiency at 10 meters as on the lower frequencies. Their novel plug arrangement permits easy capacity value selection. The time-tested B&W Variable Link design assures peak performance in ALL installations.

Type	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Outside Dia.	Plug Centers	Net Price
160TVH	90	90	16	2½″	6″	$3.14
80TVH	40	50	14	2½″	6″	3.14
40TVH	16	32	12	2½″	6″	3.14
20TVH	5.7	22	12	2½″	6″	3.14
10TVH	1.35	22	6	2½″	6″	3.14
TVH Base Assembly						4.13

TYPE TVL

250 WATTS RATING

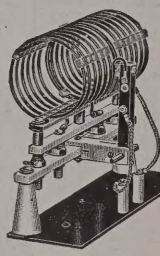


The Type TVL AIR INDUCTOR is an outstanding example of the B & W policy—to design every AIR INDUCTOR to do a specific job . . . better than it was ever done before! You'll find Type TVL Coils and Assemblies practical . . . efficient . . . exceptionally dependable for medium power applications—even under extreme operating conditions.

Type	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Outside Dia.	Plug Centers	Net Price
160TVL	94.0	90	18	2½″	5″	$2.48
80TVL	38.0	55	14	2½″	5″	2.37
40TVL	15.0	34	12	2½″	5″	2.09
20TVL	4.6	28	12	2½″	5″	1.82
10TVL	1.5	22	6	2 11/16″	5″	1.76
TV Base Assembly						4.40
TA Antenna Matching Coil						1.93

TYPE HDVL

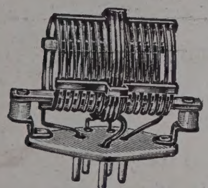
1 K.W. RATING



Here is the "King of Swing"! For all around dependability and exceptional performance in high power transmitters the heavy duty Type HDVL Swinging Link Assembly is undeniably superior, both electrically and mechanically, to any other type of coil on the market. As in all B & W Swinging Link units, an independent link and base assembly permits panel control of coupling.

Type	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Outside Dia.	Plug Centers	Net Price
160HDVL	94.0	90	14	3½″	7½″	$5.78
80HDVL	47.0	44	10	3½″	7½″	4.95
40HDVL	18.0	28	8	3½″	7½″	4.40
20HDVL	5.2	25	8	3½″	7½″	4.13
10HDVL	1.3	25	4	2⅝″	7½″	3.58
HDV Base Assembly						5.50
HDA Antenna Matching Coil						4.40

* TOTAL EFFECTIVE CAPACITY REQUIRED TO EFFECT RESONANCE ON LOW FREQUENCY END OF SPECIFIED BAND



Type		Tuning Cap. Mmfd.
160 JEL	End Linked	100
80 JEL		50
40 JEL		25
20 JEL		25
10 JEL		25
160 JCL	Center Linked, Center Tapped	100
80 JCL		50
40 JCL		25
20 JCL		25
10 JCL		25
160 JVL	Variable center link, Center tapped	100
80 JVL		50
40 JVL		25
20 JVL		25
10 JVL		25

B&W "JUNIORS"

75 WATTS RATING

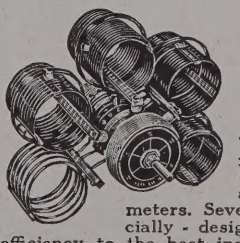
New! Huskier! . . . "Tops" for Most Limited-Space Applications!

These new B&W JUNIORS far surpass, in ruggedness and efficiency, most of the larger, more bulky coils of comparable rating. Designed for optimum performance in oscillator, buffer, or amplifier stages operating at input powers up to 75 watts and plate voltage to 850 volts.

All types may be used in capacity coupled circuits by omitting **connections to the links.** (Special Junior Coils or Junior Coil Assemblies quoted upon request.)

Amateur net. . . . . .Each	$1.10
Any type, less base. . . .	.94
5-prong Alsimag Base. .	.39

100 WATT 5-BAND TURRETS



TYPE BCL—Center Linked, Center Tapped Coils

TYPE BEL—End Linked Coils

These B&W 100-watt Turrets set new highs in fast, positive band switching on the commonly used amateur frequencies, 10 to 160 meters. Several new features, including a specially - designed switch, make them equal in efficiency to the best individual plug-in coil systems.

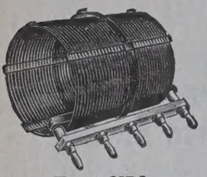
They're extremely compact — 7½″ high; 7½″ wide; depth behind panel, 4½″; shaft extension, 1″. They may be used with tubes operating at 1,000 to 1,250 volts and a maximum input power of 165 watts. Each unit comes complete with frequency-marked dial plate, lock washer and nut. It may be mounted directly on the panel in a single ⅜″ hole. You'll find the total cost of one of these turrets and suitable condensers is actually less than the cost of components for any comparative method now available.

Amateur Net .Each $9.35

FIXED LINK AIR INDUCTORS

B&W

BARKER & WILLIAMSON • UPPER DARBY, PA.


Type HDL
(Fixed Link)

● Minimum Dielectric in the Field of the Coil ● Extremely Low Losses ● Rugged Construction ● Excellent Appearance ● Low Cost

Each AIR INDUCTOR is a completely finished unit in every respect. All coils are center tapped and equipped with banana type plugs. . . . The "B" series is for use in oscillator and buffer—doubler stages developing up to 100 Watts of power. . . . The "BX" series is suitable for neutralized buffer and final tank stages with inputs up to 250 Watts. . . . The "T" line is especially well suited for high powered neutralized buffer and final tank stages where powers of 500 Watts are developed.

For the Amateur who wishes to use the maximum amount of power, our "HD" series of inductors are unquestionably the finest coils of their type on the market today. Capable of handling a kilowatt with ease. Equipped with oversized plugs of ample current carrying capacity.

TYPE B and BL • 100 WATTS RATING

Std. Type	Net Price	Linked Type	Net Price	Ind. Mh.	*Cap. MMfd.	Wire Size	Diam.
160B	$1.93	160BL	$2.75	78.0	110	18	2½"
80B	1.71	80BL	2.53	39.0	52	16	2½"
40B	1.43	40BL	2.26	12.0	43	14	2"
20B	1.16	20BL	1.98	3.0	40	14	2"
10B	1.10	10BL	1.93	1.1	28	12	2"

Outside Plug Centers 3⅛"

TYPE BX and BXL • 250 WATTS RATING

Std. Type	Net Price	Linked Type	Net Price	Ind. Mh.	*Cap. MMfd.	Wire Size	Diam.
160BX	$1.98	160BXL	$3.08	84.0	100	14	4"
80BX	1.76	80BXL	2.86	37.0	54	14	3"
40BX	1.49	40BXL	2.59	10.0	51	14	2½
20BX	1.21	20BXL	2.31	2.8	45	14	2"
10BX	1.16	10BXL	2.26	1.0	35	12	2"

Outside Plug Centers 4"

TYPE T and TL • 500 WATTS RATING

Std. Type	Net Price	Linked Type	Net Price	Ind. Mh.	*Cap. MMfd.	Wire Size	Diam.
160T	$2.04	160TL	$3.14	74.0	115	12	5"
80T	1.82	80TL	2.92	35.0	60	12	3½"
40T	1.54	40TL	2.64	13.5	38	12	2½"
20T	1.27	20TL	2.37	4.3	30	12	2½"
10T	1.21	10TL	2.31	1.3	25	12	2"

Outside Plug Centers 5"

TYPE HD and RDL • 1 K.W. RATING

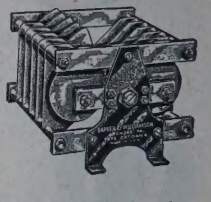
Std. Type	Net Price	Linked Type	Net Price	Ind. Mh.	*Cap. MMfd.	Wire Size	Diam.
160HD	$4.68	160HDL	$6.88	94.0	90	10	5"
80HD	3.85	80HDL	6.05	40.0	50	10	3½"
40HD	3.30	40HDL	5.50	15.0	35	8	3½"
20HD	3.03	20HDL	5.23	4.2	29	8	3"
10HD	2.48	10HDL	4.68	1.3	25	4	2"

Outside Plug Centers 7½"

* Capacity required to effect resonance on low frequency end of specified band.

A68-P1—Network Coil—Complete with clip. $2.04

TYPE CX CONDENSER



An unusually high quality component, the B & W type CX variable condenser possesses features not found in units of conventional design. Integrally incorporated neutralizing plates eliminate mechanical mounting details and preserve circuit symmetry. B & W type HDVL, HD, HDL, or TVH inductor assemblies may be mounted directly on the condenser, completely eliminating all closed circuit wiring and reducing total tuned circuit leads to an absolute minimum. Opposed stator sections provide short, high current RF paths so necessary in high powered transmitters.

"A" TYPE - .500" AIRGAP

Type	Cap. per Section Max.	Cap. per Section Min.	Cap. Sections in Series Max.	Cap. Sections in Series Min.	Mounting Length	Net Price
CX11A	11	8	8	6	$4\frac{9}{16}$"	$10.75
CX20A	20	11	13	8	$5\frac{11}{16}$"	13.15
CX30A	30	14	18	10	$6\frac{13}{16}$"	15.10
CX40A	40	18	23	12	$7\frac{15}{16}$"	17.00
CX49A	49	21	28	14	$9\frac{1}{16}$"	18.95
CX59A	59	24	33	16	$10\frac{3}{16}$"	20.85
CX68A	68	27	38	18	$11\frac{5}{16}$"	22.75
CX77A	77	30	43	20	$12\frac{7}{16}$"	24.70
CX87A	87	34	48	22	$13\frac{9}{16}$"	26.60
CX96A	96	37	53	24	$14\frac{11}{16}$"	28.50
CX105A	105	40	58	26	$13\frac{13}{16}$"	30.45
CX115A	115	43	62	29	$16\frac{15}{16}$"	32.35
CX124A	124	46	68	30	$18\frac{1}{16}$"	34.30

"C" TYPE - .250" AIRGAP

Type	Cap. per Section Max.	Cap. per Section Min.	Cap. Sections in Series Max.	Cap. Sections in Series Min.	Mounting Length	Net Price
CX13C	13	8	10	6	$4\frac{5}{16}$"	$10.20
CX30C	30	11	18	8	$4\frac{15}{16}$"	12.50
CX45C	46	13	26	9	$5\frac{9}{16}$"	14.35
CX62C	62	16	34	11	$6\frac{3}{16}$"	16.15
CX78C	78	19	42	12	$6\frac{13}{16}$"	18.00
CX95C	95	22	50	14	$7\frac{7}{16}$"	19.85
CX111C	111	25	59	15	$8\frac{1}{16}$"	21.60
CX127C	127	28	67	17	$8\frac{11}{16}$"	23.45
CX143C	143	31	75	18	$9\frac{5}{16}$"	25.25
CX159C	159	33	83	20	$9\frac{15}{16}$"	27.00
CX175C	175	36	91	21	$10\frac{9}{16}$"	28.95
CX192C	192	39	100	23	$11\frac{3}{16}$"	30.75
CX208C	208	42	110	24	$11\frac{13}{16}$"	32.50

Standard plate thickness in all models, 1/16". Available on special order, 3/32" plates at 10% additional.

Special features—We are prepared to furnish quotations on gear drive, ball bearings, ganged units, or other types of special design.

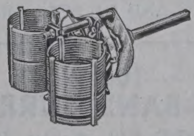
Explanation: The type of each condenser designates its capacity and plate spacing as follows:

CX100 indicates 100 mmfd per section.

Letters A, B, C, or D denote plate spacing: A—.500", B—.375", C—.250", D—.187". Following N# denotes Neutralizing plates.

Type HDV assembly mounted on any type of condenser. . . . $5.00 Net
Type HD or HDL Jack Bar mounted on condenser. . . . . . $2.75 Net
Type TVH assembly mounted on condenser. . . . . $4.25 Net

B&W LOW-POWER COILS and BAND SWITCHING ASSEMBLIES



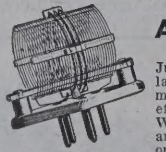
B&W "BAND-HOPPERS"

The Mighty Midgets of Band Switches!

Sturdy, unbelievably compact, low in price! These reliable practical units are now available in two completely redesigned units . . . improved throughout. Cover all five bands, yet require very little space. Panel control.

Model 2A—(25 Watt Rating)—For interstage coupling with beam power tubes. **Net $3.65**

Model 2AB—(50 Watt Rating)—For interstage coupling between beam power tubes and triodes or high-powered beam tubes. . . . .**Net $3.85**



"BABY" AIR INDUCTORS

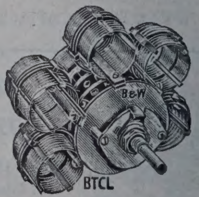
(25 Watt Rating)

Just the thing for crowded layouts, portables, field transmitters! The smallest, most efficient, most practical 25-Watt coils ever available to amateurs. "BABIES" measure only 1½" x 1¼", are made by a special B&W process which insures perfect air-spacing, maximum strength, fine appearance and ultra-high efficiency with an absolute minimum of insulating material. Available in five types, from 10 to 160 meters. **Conservatively** rated. Universal 5-prong Alsimag 196 bases.

Net, Any Type. $0.83

Straight Coil	Center Tapped	End Linked	Center Linked	Inductance	*Capacity
160M	MC	MEL	MCL	90	90
80M	MC	MEL	MCL	40	50
40M	MC	MEL	MCL	14	35
20M	MC	MEL	MCL	3.5	35
10M	MC	MEL	MCL	1.1	30

*Total effective capacity required to effect resonance on low frequency end of specified band.



"BABY" TURRETS

35-Watt Rating

These compact 5-band switching units cover amateur bands from 10 to 160 meters. They may be tuned in all types of service with any of the 100 mmfd. midget condensers. Their sturdy construction and unique design assure permanent coil alignment and maximum efficiency with a minimum number of tubes. Four types — BTM, straight untapped; BTCT, center tapped; BTEL, end linked and BTCL, center linked—provide vastly improved band-switching efficiency in low-power transmitters and exciter stages.

Net, Any Type. $6.75

JAMES MILLEN

Amateur Band
TRANSMITTER ACCESSORIES

50-Watt Transmitter—Exciter

USES 6L6 AND 807

Compact relay rack mounting

A Tri-tet circuit, which is used to obtain harmonic output, is reduced to the simple tetrode circuit for oscillator output at the crystal fundamental by short-circuiting the cathode tank circuit. Sufficient oscillator output at the fourth harmonic of the crystal frequency is obtainable to drive the 807, which may be operated as either a straight amplifier or frequency doubler, making it possible to obtain an output of 25 to 50 watts or more in four bands from a single crystal of properly-chosen frequency.

The entire unit is designed to operate from a single 250-ma. supply delivering up to 750 volts, the maximum voltage at which the 807 is designed to operate. A fixed bias of 45 volts is required for the 807 and the two heaters together consume 1.8 amperes at 6.3 volts. A single milliammeter with a scale of 200 ma. may be switched to read the plate current of either stage.

Because it is possible to double or quadruple frequency in the plate circuit of the oscillator and to double frequency in the plate circuit of the 807 as well, there are several possible combinations of coils and crystals which will produce the same output frequency.

90800, less tubes, but including one set of coils. *Net Price* $37.50

Additional coils, per set of three. *Net Price*........$3.00

(In ordering state band in which crystal operates and band in which output is desired)

Variarm—ECO

A GOOD ECO AT A LOW PRICE

LOW DRIFT—Less than 0.06% from cold start. Most drift in first 10 minutes.

VIBRATION IMMUNE—Shock mounted oscillator section; sturdy construction.

NO HAND CAPACITY

CHIRPLESS KEYING—Constant load on power supply.

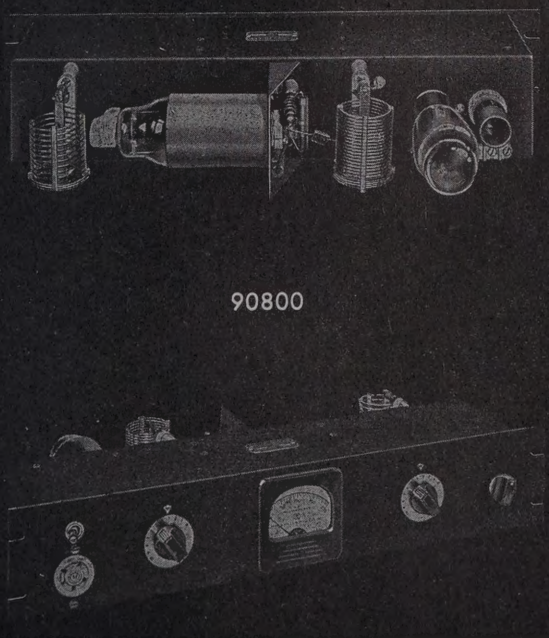
GOOD BAND SPREAD—100 dial divisions from 3500 to 3650 kc. on model 90700. "Variarm" vernier tuning on both models.

COMPLETE—Vibrationless power supply, three tubes, output coupling unit.

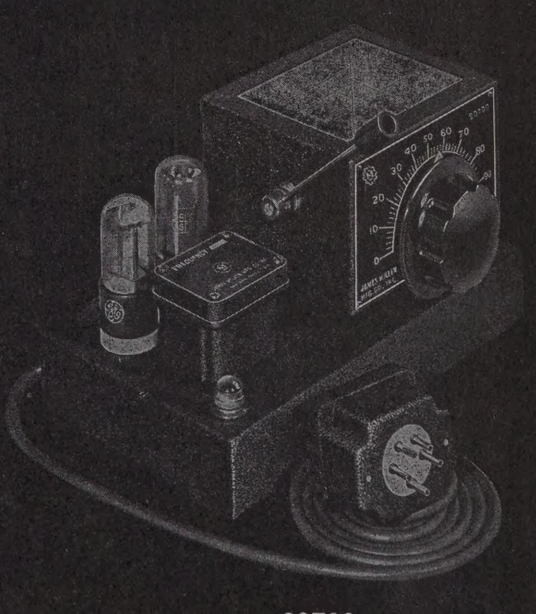
The Rice-Variarm was described in detail in a comprehensive article by Henry E. Rice, Jr., in the January issue of *QST*. The Millen commercial models are:

No. 90700 has fundamental oscillator frequency range of from 3500 to 3650 kc. "Convenient-to-change" taps on amplifier and link coils provide for output on 80 or 40. Complete with G.E. tubes, ready to use. *Net Price* $32.50

No. 90701 is the same as No. 90700 except fundamental oscillator frequency range of from 1750 to 2000 kc., providing for output on 160 or 80. Complete with G.E. tubes, ready to use. *Net Price*... $32.50



90800



90700

JAMES MILLEN

Modern Parts Designed for Application

MILLEN RADIO PRODUCTS are well designed MODERN PARTS for MODERN CIRCUITS, attractively packaged, moderately priced, and fully guaranteed. They have been designed with a view toward easy and practical application as well as efficient performance. For instance, the terminals are located so as to provide shortest possible leads, mounting feet are designed for easy insertion of screws and socket contacts, so that the solder won't run down inside them and make impossible the insertion of the tube etc. Thus our slogan, "Designed for Application." Our general catalog is available for the asking cither from your favorite parts supply house or direct from the factory.

11000, 12000. 13000, 14000 SERIES CONDENSERS
11000 Series has worm drive.

MILLEN TYPE

Code	*Capacity per side*		*Air Gap*	*Voltage Rating*	*Net Price*
	Max.	*Min.*			
11035	36	4.6	.077″	3000	$6.90
11050	51	6.5	.077	3000	7.14
11070	74	9.5	.077	3000	7.80
13035	35	4.9	.077	3000	4.56
13050	49.5	6.3	.077	3000	5.20
13070	71	7.3	.077	3000	5.88
14200	204	10.7	.077	3000	7.80
14100	90.5	12.9	.171	6000	12.00
14050	50		.171	6000	7.20
14060	60		.265	9000	12.00

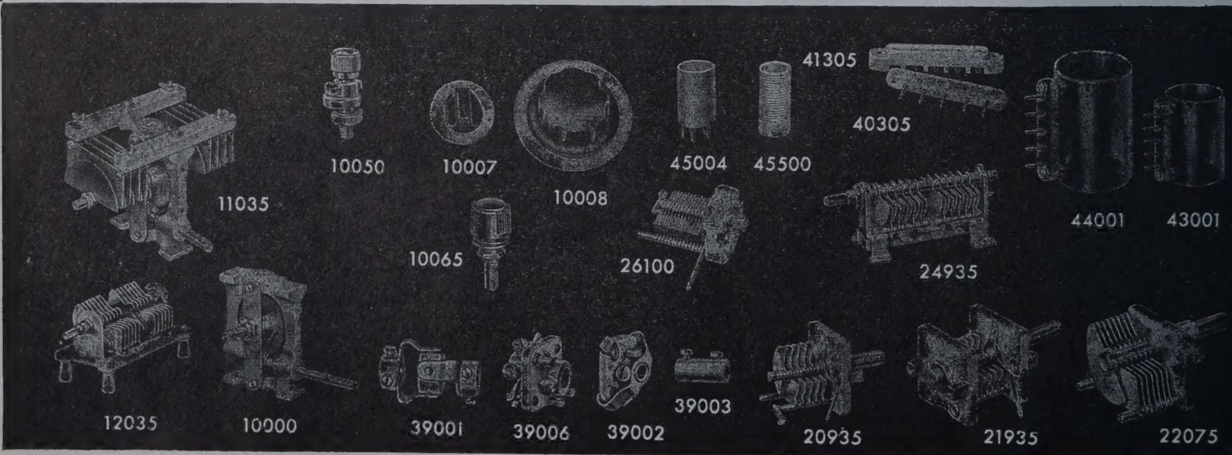
CONVENTIONAL SINGLE SECTION TYPE

Code	*Capacity per section*		*Air Gap*	*Finish on Plates*	*Net Price*
	Min.	*Max.*			
12935	9	37	.176″	Polished	$4.32
12936	9	37	.176	Plain	3.90
12536	6	43	.077	Plain	2.40
12551	7	55	.077	Plain	2.70
12576	9	76	.077	Plain	3.00
12510	12	101	.077	Plain	3.60
12515	18	151	.077	Plain	4.50

CONVENTIONAL DOUBLE SECTION TYPE

Code	*Capacity per section*		*Air Gap*	*Finish on Plates*	*Net Price*
	Min.	*Max.*			
12035	6	43	.077″	Polished	$4.32
12036	6	43	.077	Plain	3.90
12050	7	55	.077	Polished	5.10
12051	7	55	.077	Plain	4.32
12075	9	76	.077	Polished	5.61
12076	9	76	.077	Plain	5.40

Code	*Description*	*Net Price*
10000	Worm Drive Unit	$4.50
10001	Drum Meter Dial 0-100	1.85
10007	1⅝″ Nickel Silver Inst. Dial-0-100	.50
10008	3⅜ Nickel Silver Inst. Dial-0-100	1.00
10050	Dial Lock	.45
10060	Shaft Locks for ¼″ Shafts	.36
10061	Shaft Lock	.36
10065	Vernier Drive Unit	.36
10067	Shaft Bearing, ¼″	.21
15001	Neutralizing Condenser 0.7–4.3 "Poly"	.90
15002	Neutralizing Condenser 0.5–13.5 "Poly"	1.05
15003	Neutralizing Condenser 1.5–8.5 "Poly"	.90
15005	Neutralizing Condenser 3.4–14.6 "Air"	2.00
15006	Neutralizing Condenser 2.8–9.1 "Air"	3.00
20015	Steatite Ultra Midget 15 mmfd SS	.75
20035	Steatite Ultra Midget 35 mmfd SS	1.00
20050	Steatite Ultra Midget 50 mmfd SS	1.20
20100	Steatite Ultra Midget 100 mmfd SS	1.50
20140	Steatite Ultra Midget 140 mmfd SS	1.70
20920	Steatite Ultra Midget 20 mmfd DS	1.20
20935	Steatite Ultra Midget 35 mmfd DS	1.40
21050	Steatite Ultra Midget 50 mmfd SS	1.75
21100	Steatite Ultra Midget 100 mmfd SS	1.90
21140	Steatite Ultra Midget 140 mmfd SS	2.10
21935	Steatite Ultra Midget 35 mmfd DS	1.90
22075	Steatite Midget 75 mmfd SS	1.32
22100	Steatite Midget 100 mmfd SS	1.38
22140	Steatite Midget 140 mmfd SS	1.62
22915	Steatite Midget 15 mmfd DS	1.20
22935	Steatite Midget 35 mmfd DS	1.30
22950	Steatite Midget 50 mmfd DS	1.50
23075	Steatite Dual Midget 75 mmfd per section SS	2.60
23100	Steatite Dual Midget 100 mmfd per section SS	2.50
23925	Steatite Dual Midget 25 mmfd per section DS	2.25
23950	Steatite Dual Midget 50 mmfd per section DS	2.50
24100	100 mmfd per section. Single spaced	2.75
24935	35 mmfd per section. Double spaced	2.75
25130	93–130 Air Padder	1.50
26025	3.2–25 Air Padder	.96
26050	4–50 Air Padder	1.08
26075	4.3–76 Air Padder	1.20
26100	5–97 Air Padder	1.32
26920	4.5–20 Air Padder	1.40
26935	5.5–36 Air Padder	1.50
27010	10 mmf Silver on Mica	.36
27025	25 mmf Silver on Mica	.36
27050	50 mmf Silver on Mica	.36
27100	100 mmf Silver on Mica	.36

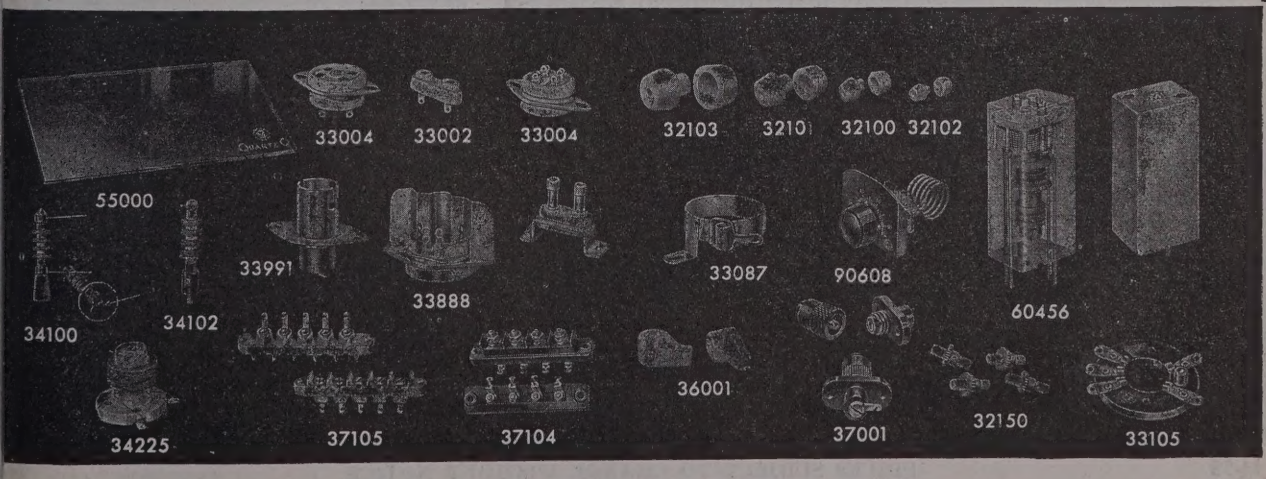


JAMES MILLEN

Modern Parts Designed for Application

Code	*Description*	*Net Price*
27150	150 mmf Silver on Mica	$ .42
28030	30 mmfd Mica Trimmer	.15
30001	Standoff, ½ x 1⅜, QuartzQ	.15
30002	Standoff, ½ x 2⅞, QuartzQ	.21
30003	Standoff, ¾ x 2⅞, QuartzQ	.55
30004	Standoff, ¾ x 4⅞, QuartzQ	.65
31001	Standoff, ½ x 1, Isolantite	.20
31002	Standoff, ½ x 2½, Isolantite	.27
31003	Standoff, ¾ x 2, Isolantite	.30
31004	Standoff, ¾ x 3½, Isolantite	.42
31011	Cone, ¾ x ½, Steatite	10
31012	Cone, 1 x 1, Steatite	.21
31013	Cone, 1½ x 1, Steatite	.27
31014	Cone, 2 x 1, Steatite	.75
31015	Cone, 3 x 1½, Steatite	.45
32100	Steatite Bushing for ⅜″ hole	.30
32101	Steatite Bushing for ½″ hole	.35
32102	Steatite Bushing for ¼″ hole	.20
32103	Steatite Bushing for ¾″ hole	.45
32150	Isolantite Thru-bushing, for ¼″ hole	.05
32201	Steatite Bushing and Hardware	.75
32203	Steatite Bushing and Hardware	3.60
32300	Isolantite Bushing	1.80
33002	Crystal Socket	.25
33004	4 Prong Socket	.24
33005	5 Prong Socket	.24
33006	6 Prong Socket	.24
33008	8 Prong, Octal, Socket	.24
33087	Base Clamp for 807, etc.	.30
33105	Acorn Socket, QuartzQ	.90
33888	Aluminum Shield for 33008	.18
33991	Socket for 991, etc.	.45
34010	Shielded 10 MH receiving	.75
34100	Universal 2.5 MH	.36
34101	Universal 2.5 MH, less Standoff	.30
34102	Commercial type 2.5 MH	.36
34140	Universal Air Core Transmitting	1.00
34154	Amateur Band Transmitting Choke	1.50
34210	General Purpose RFC 10 MH	.60
34225	General Purpose RFC 25 MH	1.75
34240	General Purpose RFC 40 MH	.75
34285	General Purpose RFC 85 MH	1.25
34800	Interruption Frequency Oscillator Coil	1.20
36001	Ceramic Plate Cap, ⁹⁄₁₆″ for 866, etc.	.21
36002	Ceramic Plate Cap, ⅜″ for 807, etc.	.21
37001	Black Bakelite Safety Terminal	.40
37104	Four Terminal Black Bakelite	.60
37105	Five Terminal, Steatite	.75
37202	Steatite Plates, Pr.	.30
37211	Bracket	.15
37222	Terminal Posts, Pr.	.30
37501	Low Loss Mica Bakelite Safety Terminal	.55
38001	Isolantite ³⁄₁₆″ O.D. Beads (Pk. of 50)	.30
38500	100 Beads, ⁵⁄₁₆″ dia., QuartzQ	.60
39001	Truly Flexible Isolantite	.36
39002	Conventional	.36
39003	Solid Brass N.P.	.21
39005	Universal Joint, Non-Insulated	.36
39006	Slide Action	.36
40205	Midget Coil Plug	.24
40305	Intermediate Size Coil Plug	.45
41205	Midget Coil Socket	.30
41305	Intermediate Size Coil Socket	.45
43001	QuartzQ Blank Coil Form and Plug	.90
43011	Midget Coils for Each Band. Mounted on No. 40205	.90
43021		.90
43041		.90

Code	*Description*	*Net Price*
43081	Plug No. 1 at end of code means center link.	$ .90
43161	No. 2, end link	.90
44000	QuartzQ Coil Form 1¾″ dia. x 3¾″	.75
44001	QuartzQ Blank Coil Form and Plug	1.20
44005		1.50
44010		1.50
44020		1.50
44040	"100 watt" coils for each band. Mounted on No. 40305 plug	1.50
44080		1.90
44160		2.10
44500	Swinging Link and Socket	1.75
45000	Coil Form, 1″ dia. no p. low loss mica base Phenolic	.21
45004	Coil Form, 1″ dia. 4 p., low loss mica base Phenolic	.30
45005	Coil Form, 1″ dia. 5 p., low loss mica base Phenolic	.30
45500	Coil Form, ⅝″ dia., Steatite	.45
46100	Coil Form, 1½″ dia. no p., QuartzQ	.45
47001	Coil Form, ½″ dia., QuartzQ	.10
47002	Coil Form, ½″ dia., QuartzQ	.15
47003	Coil Form, ¾″ dia., QuartzQ	.35
47004	Coil Form, ¾″ dia., QuartzQ	.45
55001	Sheet, 3 x 8½ x .1, QuartzQ	.45
58000	Coil Dope, 2-oz., QuartzQ	.30
77083	"83" Hash Filter 250MA	1.00
77866	"866" Hash Filter 500MA	1.25 pr.
77872	"872" Hash Filter	1.40 pr.
79020	14mc Band Wave Trap	.90
79040	7mc Band Wave Trap	.90
79080	3.5mc Band Wave Trap	.90
79160	1.7mc Band Wave Trap	.90
	I. F. TRANSFORMERS	
	Air Trimmed	
60454	456 Diode Air Core	4.50
60455	456 Interstage (1) Air Core	4.50
60456	456 Interstage (2) Air Core	4.50
60501	5000 Interstage (2) Air Core	4.50
60502	5000 Diode Air Core	4.50
60503	5000 FM Interstage Air Core	4.50
60504	5000 FM Disc Air Core	4.50
62161	1600 Interstage Iron Core	4.50
62162	1600 Diode Iron Core	4.50
62454	456 Diode Iron Core	4.50
62456	456 Interstage Iron Core	4.50
63163	1600 BFO Air Core	4.50
63456	456 BFO Air Core	4.50
63503	5000 BFO Air Core	4.50
	Mica Trimmed	
67454	456 Diode Iron Core	1.25
67456	456 Interstage Iron Core	1.25
67503	5000 FM Interstage Air Core	1.50
67504	5000 FM Disc Air Core	1.50
	Permeability Tuned	
64454	456 Diode (2)	1.50
64456	456 Interstage (2)	1.50
65456	456 BFO	1.50
64161	1600 kc Interstage	2.50
65163	1600 kc BFO	2.25
	Triple Tuned	
66454	456 Diode	1.75
66456	456 Interstage	1.75
90721	Hetrofil	4.00



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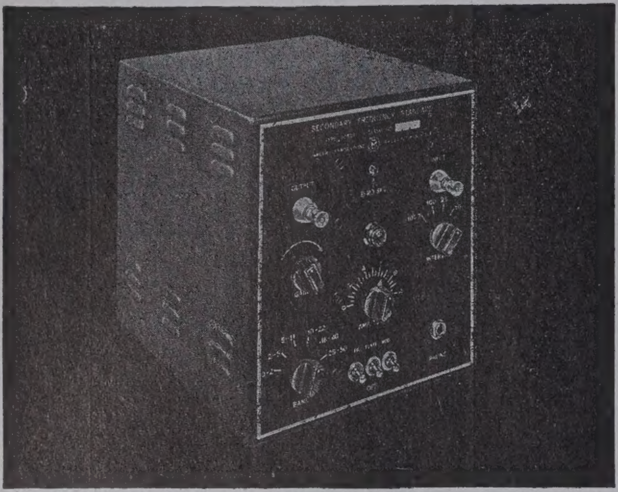


A Precision Crystal *Secondary* FREQUENCY STANDARD

A precision frequency standard capable of being adjusted to WWV or some other primary standard and putting out uniformly accurate calibrating signals with 10, 25, 100, 1000 KC intervals. Uses the new GENERAL ELECTRIC 1000 KC crystal having a frequency temperature coefficient of less than one cycle/Mc/C°. The crystal is sealed in Helium in a standard metal tube envelope.

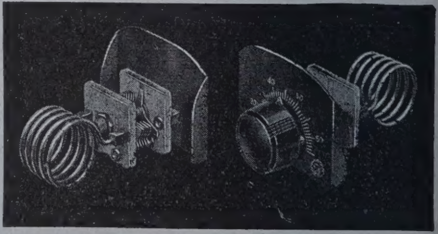
The self-contained AC power supply has VR150-30 voltage regulator tube. . . . In addition to oscillator, multivibrators, and amplifier, a built-in detector with phone jack and gain control on panel is incorporated.

The August 1940 issue of the magazine *QST* contains a detailed technical description by the designer, Mr. George M. Brown.

Tubes required: VR150-30; 6K8; 2-6SC7; 6V6; 6SJ7; 5W4. Cabinet size: 9″ x 9½″ x 10½″. Weight of the 110 volt 60 cycle model, less packing, is 16 lbs.

90505	Frequency Std., with G.E. tubes and crystal 110V60 net pr. . .	$135.00
90507	Frequency Std., with G.E. tubes and crystal 220V50-60 net pr.	145.00

MIDGET FREQUENCY METERS



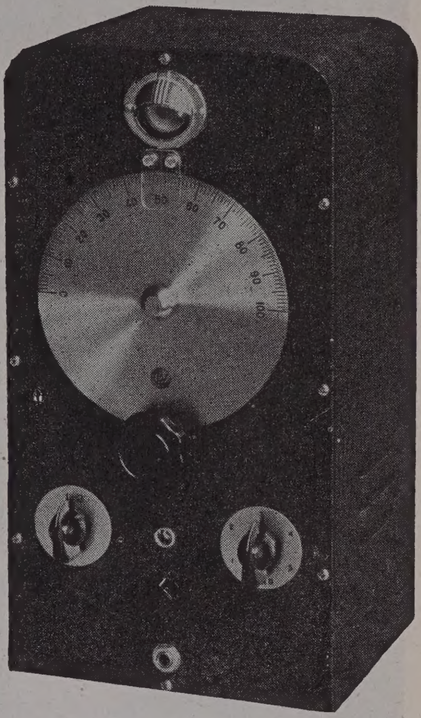
Many amateurs and experimenters do not realize that one of the most useful "tools" of the commercial transmitter designer is a series of very small absorption type frequency meters. These handy instruments can be poked into small shield compartments, coil cans, corners of chassis, etc., to check harmonics; parasitics; oscillator-doubler, etc., tank tuning; and a host of other such applications. Quickly enables the design engineer to find out what is really "going on" in a circuit. Sold in sets of 4 in handy protective case or individually.

90605	Range 3.0 to 10 mc.	$3.00
90606	Range 9.0 to 23 mc.	3.00
90607	Range 23 to 60 mc.	3.00
90608	Range 50 to 140	3.00
90600	Complete set of four, in case	12.00

BROWNING

FREQUENCY METER — TYPE S-2

ACCURACY BETTER THAN .005%



. . . Characteristics . . .

1. Custom built and hand calibrated for specified frequencies.
2. Checks frequencies within any five bands, 25 to 500 Kc. wide, depending on position in spectrum, from 1.5 to 120 Mc.
3. Stable E.C. oscillators in especially designed circuit.
4. 100 Kc. crystal oscillator provides at least two check points in any band.
5. Cathode ray indicator allows accurate visual check against crystal standard as well as against transmitter.
6. Complete voltage stabilization of both crystal standard and E.C. oscillators.
7. Overall accuracy better than .005%.
8. Rapid operation. Less than one minute required to check one frequency.
9. Portable — a.c.-d.c. operation.
10. May be used to determine any five frequencies in the range from 1.5 to 60 Mc. to an accuracy of .005%.

. . . Circuit Design and Operation . . .

The Type S-2 Frequency Meter is designed for accurately checking frequencies in any five bands (25 to 500 Kc. wide depending on location in spectrum) from 1.5 to 60 Mc. A 100 Kc. crystal is used as a secondary standard. Its frequency may be checked readily against the National Bureau of Standards' Station WWV or any reliable broadcast station operating on a multiple of 100 Kc.

Very stable electron-coupled oscillators are used to cover a band of frequencies from 25 to 500 Kc. wide. The required frequencies are included in these narrow bands. A 5½" vernier drive dial is attached to the condenser controlling the variable oscillator, and an accurate calibration of this dial given. The circuit is so designed that at least two points on any band may be checked against the 100 Kc. crystal oscillator. Slight adjustments of the variable oscillator by means of a front panel control are made when necessary, so that the calibration of the variable oscillator is at all times reliable. The specified frequencies are clearly indicated on the calibration curve and their dial settings given.

To facilitate zero beat adjustments, a tuning eye is employed. When exact zero beat is obtained, the eye opens. Either side of zero beat, the eye "flutters" at the beat note rate. A phone jack is provided so that zero beat may be indicated aurally as well as visually. The tuning eye is employed both in checking the variable oscillator against the 100 Kc. crystal and the transmitter against the variable oscillator. It may be used also to check transmitter frequency deviation. Checks on the transmitter frequency may be made very rapidly, the average time required being less than a minute.

The accuracy of the meter depends primarily on the accuracy with which the dial may be read. It is this reading accuracy requirement which determines the band width employed at any point in the spectrum. There are 200 divisions on the main 5½" tuning dial. Reading to ½ of one division is entirely feasible. At 1500 Kc. this provides a reading accuracy of .004% with a band spread of 25 Kc. The same accuracy at 30 Mc. is obtained with a band spread of 500 Kc. The calibration curve is drawn in the laboratory by means of a frequency standard whose accuracy is better than 5 parts in 5 million and which allows check points every 10 Kc.

The highest order of stability is obtained by voltage regulation. Line voltage changes of 10% have a negligible effect.

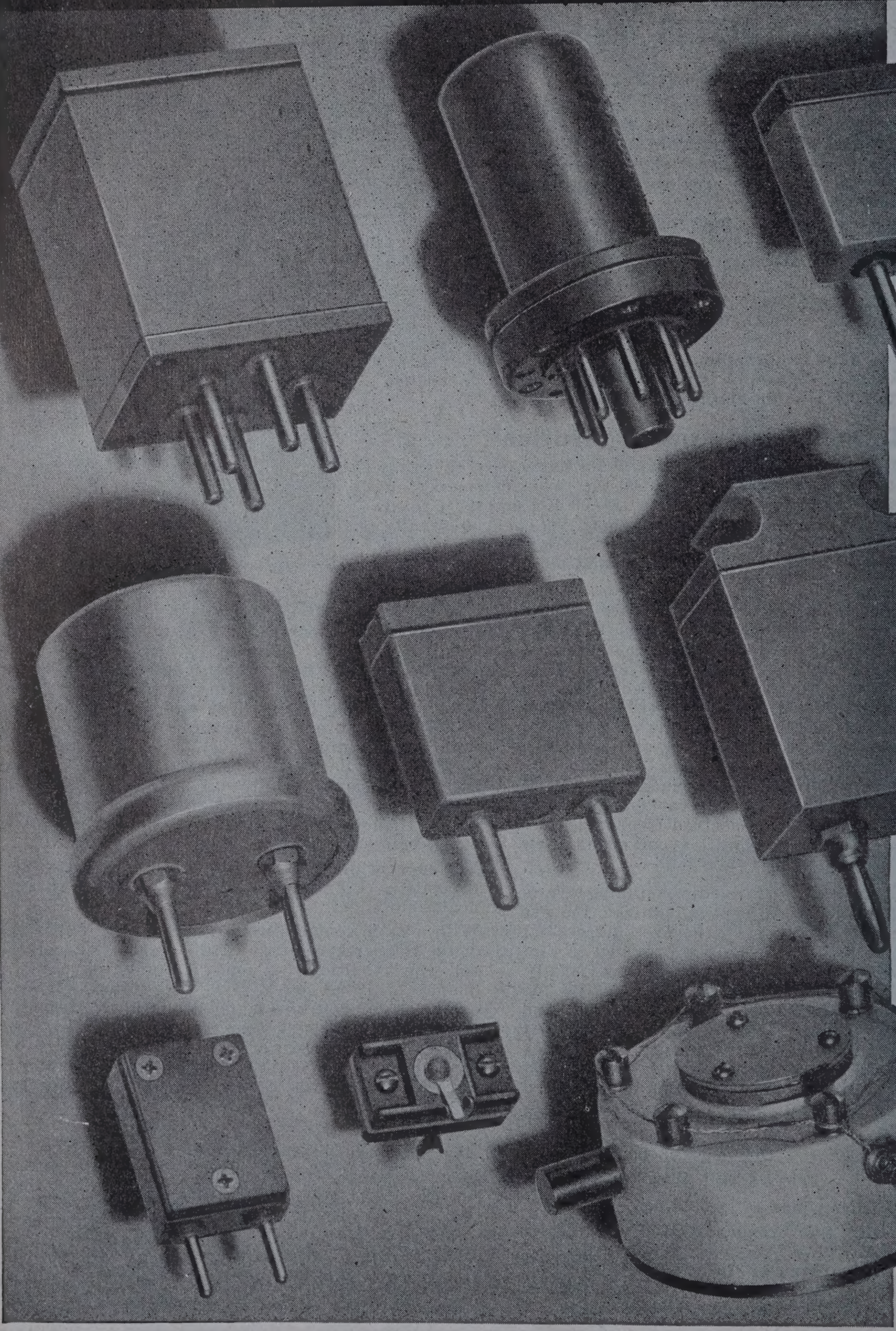
With a room temperature change of 10°F either side of the temperature at which the crystal is accurately set, the resulting frequency error in crystal frequency will be .002%. The time taken to reach operating temperature is about one hour. Means are provided for changing the crystal frequency slightly so that this frequency may be at any time adjusted to at least 50 parts in 5,000,000 against the National Bureau of Standards' Station WWV by the zero beat method.

Delivery can be made about 15 days after receipt of order

Prices F.O.B. Winchester, Mass. (Subject to change without notice)

Dimensions 14" x 7" x 6"	Shipping Weight 15 lbs.
Any One Frequency Band	$125.00
Any Two Frequency Bands	145.00
Any Three Frequency Bands	165.00
Any Four Frequency Bands	185.00
Any Five Frequency Bands	205.00

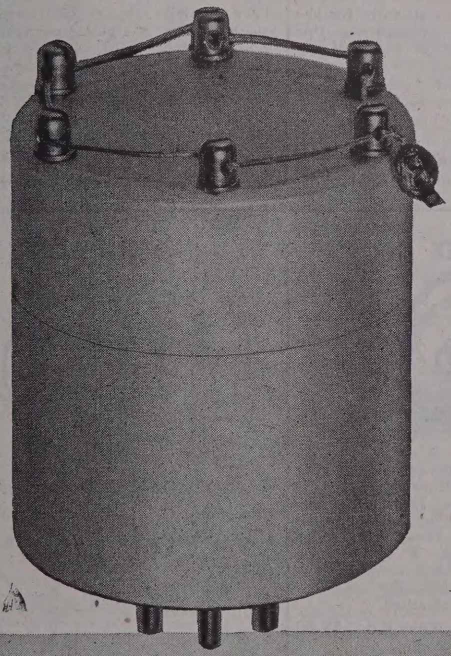
Bliley
CRYSTALS



Bliley
CRYSTALS

There is a BLILEY CRYSTAL for every frequency control application

Illustrated here are a few of the crystal types which we are currently manufacturing for use in both fixed and mobile communications equipment of our armed forces and other essential applications. They are designed and pre-conditioned for rugged service in all parts of the world.



The activity and frequency of each crystal is individually proven under laboratory created service conditions of altitude, humidity, temperature, immersion, shock and vibration.

Bliley's background of research and skill in licking tough wartime assignments is your guarantee that Bliley will also have the right crystal for every application in the new developments that are rapidly shaping up for a peacetime world.

When considering new crystal requirements or replacements to exacting equipment it will pay you to consult Bliley. Our experienced engineering staff can analyze your application and recommend the best type of crystal for your purpose. Quotations submitted promptly upon receipt of detailed specifications.

Do more than before . . .
Buy extra War Bonds

BLILEY ELECTRIC COMPANY
UNION STATION BUILDING • ERIE • PENNSYLVANIA

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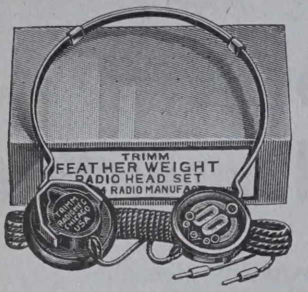
TRIMM HEADSETS

KNOWN AROUND THE WORLD

MADE IN U.S.A. SINCE 1922

FEATHERWEIGHTS



The world famous TRIMM Featherweight. Recognized as a leading quality headset. Weighs 4½ oz. complete with two units, 5 foot moisture-proof wear-resisting cord, and adjustable nickel-plated steel headband. Bakelite shell and cap. Magnet of highest quality cobalt steel alloy. Pole pieces of finest magnetic iron. Coils especially impregnated. A custom-built phone throughout. Standard resistances.

No. 100—Adjustable nickel-plated steel headband	$10.00
No. 104—Fabric-covered wire headband	10.00

COMMERCIALS

The most sensitive headset, yet ruggedly constructed. Practically non-breakable. A 5 foot special moisture-proof cord, with telephone type plug attached, and brown leather-covered wire headband with exclusive spring lock and adjusting clamp are all part of this lightweight headset. Dia. 2⅛", depth ¾", forged magnet of best grade cobalt steel. Color . . . a rich, warm walnut brown.

No. 156—600 ohms. Imp. per pair	$16.00
No. 157—17,000 ohms Ipm; per pair	16.00
No. 158—600 ohms Imp. (no plug) per pair	14.50
No. 159—17,000 ohms Imp. (no plug) per pair	14.50

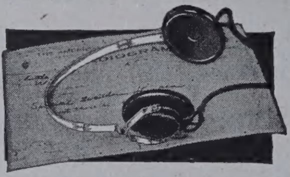
THE DEPENDABLE

TRIMM
"DEPENDABLE"
RADIO HEAD SET

When a high-grade headset is desired, but price must be considered, choose the Dependable. Bakelite caps and shells. Extra heavy bar chrome steel magnets forged to insure strength, 5 foot tinsel cord, fabric-covered wire headband.

No. 65—2000 ohms d.c. only	$3.80
No. 67—Single Dependable. 1000 ohms d.c. only	2.00

24,000 ohms Imp. FEATHERWEIGHTS



Featherweight headset built especially for the Amateur. Precision built throughout, this phone embodies the results of years of experience. Again ultra-sensitivity combined with rugged construction makes a fine headset, which is very light weight.

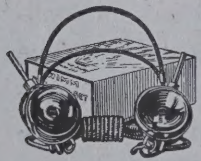
No. 106—Adjustable nickel-plated steel headband	$10.00
No. 107—Fabric-covered wire headband	10.00

ARMY-NAVY HEADSETS

Very sensitive. Meets both Army and Navy specifications. Modifications available. 5 foot moisture-proof cord, phone tip terminals. Leather headband. Bipolar magnets, 2 lbs. Available in two impedances. High impedance (2200 ohms d.c.) indicated by code letter K, and low impedance (112 ohms d.c.) indicated by code letter W.

No. K29D—2200 ohms d.c.	$16.00
No. W28D—112 ohms d.c.	16.00

PROFESSIONAL



The choice of countless users . . . the original TRIMM headset. Double unit watch case type. Bakelite cap and shell, forged magnet of chrome steel, impregnated coils, 5 foot moisture-proof wear resisting cord, entirely concealed terminals. Fabric-covered wire headband. Standard resistances.

No. 70—Double unit headset	$4.65
No. 72—Single unit headset, wire band and 6 foot cord	2.60

THE REX

A fine headset of bi-polar construction having a laminated magnet structure of the best grade chrome steel; shell of polished aluminum; molded cap; adjustable fabric-covered wire headband; high-grade tinsel cords with terminals entirely enclosed. A truly great phone combining features not before incorporated in a low cost headset. Extreme sensitivity to weak signals is attained.

Double unit headset, 2000 ohms d.c.	$2.60
Double unit headset, 20,000 ohms Imp. 5 foot cord	2.80
Single unit headset, 1000 ohms. 5 foot cord	1.60

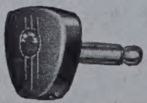
THE ACME

A superior headset in the lightweight low price field. Cap and shell of molded bakelite, chrome steel magnets. Weighs six ounces complete.

Double headset, 4000 ohms d.c.	$2.75
Double headset, 2000 ohms d.c.	2.50
Single headset, 2000 ohms d.c.	1.55
Single headset, 1000 ohms d.c.	1.50

PHONE PLUGS

Most compact plug. Bakelite with nickel-plated stem. Cord tips held tightly by screws. Easily attached to cord.



No. 512—Flat plug	$0.60

EAR CUSHIONS

Rubber ear cushions enable phones to be worn with utmost comfort. They also reduce sound leakage.

No. 654—Fits Trimm Featherweight, Trimm Commercial	$0.90

HEADPHONES By C. F. CANNON

THE "CHIEF" — *Cannon-Ball Bakelite Headset*

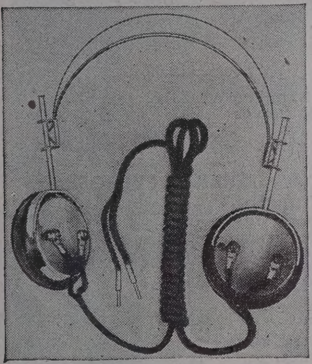
The "Chief" is a new addition to the Cannon-Ball family of headsets. There is a demand for a high grade bakelite phone, reasonably priced, and The "Chief" meets this requirement in every respect. It is an inside terminal type. The diameter of the diaphragm is $2\frac{1}{16}$″. Bakelite cases and caps. Double coils, two in each receiver. Laminated Chrome Magnets. Braid covered headbands with permanent adjustment and having no removable parts. Cotton covered cord four and one-half feet long.

No.	List Price
CC-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles	$3.75
CC-3—3000 ohms D.C. 15000 ohms impedance at 1000 cycles	4.25
CC-5—5000 ohms D.C. 25000 ohms impedance at 1000 cycles	5.25

Leather covered headband in place of the braid band, **List 45c extra**

THE CHIEF

THE BRANDES "SUPERIOR" MATCHED TONE HEADSET


THE SUPERIOR

The Brandes "Superior" headset has been on the market since 1908. It was one of the first headsets available to amateurs. It is the outside terminal type. The diameter of the diaphragm is 2⅛″. Aluminum cases. Black bakelite caps. Double coils, two in each receiver. Magnets made of chrome magnet steel. It has a steel headband with permanent adjustment and having no removable parts. Cotton covered cord four and a half feet long.

No. BS-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles. **List $3.10**

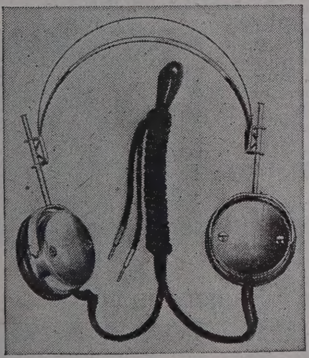
THE BRANDES "ADMIRAL" MATCHED TONE HEADSET

The Brandes "Admiral" phone is of the same general construction as the Brandes Superior but has the terminals on the inside.

No. BA-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles.	**List** $3.35
No. BA-3—3000 ohms D.C. 15000 ohms impedance at 1000 cycles.	**List** 3.75
No. BA-5—5000 ohms D.C. 25000 ohms impedance at 1000 cycles.	**List** 5.25

THE "MASTER" CANNON-BALL

That Old Reliable Headset


THE MASTER

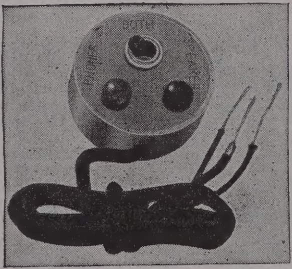
The "Master" Cannon-Ball headset is of exceptional high quality and rugged construction. It is used extensively in institutions, hospitals and prisons, and by radio servicemen and amateurs everywhere. It is of the concealed terminal type. The diameter of the diaphragm is $2\frac{1}{16}$″. Aluminum cases. Bakelite caps. Double coils, two in each receiver. Magnets made of chrome magnet steel. It has a steel headband with permanent adjustment and having no removable parts. Cord is cotton, four and a half feet long.

No.	List Price
MC-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles	$3.10
MC-3—3000 ohms D.C. 15000 ohms impedance at 1000 cycles	3.50
MC-5—5000 ohms D.C. 25000 ohms impedance at 1000 cycles	5.00

THE "DIXIE" CANNON-BALL

The "Dixie" Cannon-Ball is the same general construction as the Master Cannon-Ball except that the terminals are on the outside.

CD-2—2000 ohms D.C. 10000 ohms impedance at 1000 cycles	$2.60
CD-3—3000 ohms D.C. 15000 ohms impedance at 1000 cycles	2.85



CANNON-BALL HEADPHONE ADAPTOR

This Adaptor can be attached to any radio set. It has a three-way switch. You can listen with phones or speaker alone or with the phones and speaker together.

No. K-3 — Mounted Adaptor Switch with cord	**List $2.40**
No. K-M3—Kit complete with Master phones and switch	**List $5.75**

BRAID COVERED HEADBAND WILL BE FURNISHED WITH THE BRANDES SUPERIOR, BRANDES ADMIRAL, MASTER CANNON-BALL, IF DESIRED WITHOUT EXTRA CHARGE. IF THE BRAID BAND IS DESIRED, SPECIFY BRAID BAND WHEN ORDERING.

Brush CRYSTAL PRODUCTS

Each application of headphones requires some special qualification for satisfactory performance. Brush has a most complete line of crystal operated headphones, and each model is designed for a specific group of applications. Brush crystal phones possess the following outstanding features:

1. **BIMORPH* crystal drive element of such high impedance that line or circuit characteristics are not affected when monitored by Brush phones.**
2. **Wider range response with more uniform output.**
3. **Compensation for ear coupling.**
4. **Light-weight, rugged, shock-proof construction.**

MODEL "BA-301" HUSHATONE*

A miniature, molded plastic extension speaker for under pillow use. Disc shaped (4$\frac{3}{16}$" dia. by 1$\frac{1}{16}$" thick). Makes no uncomfortable lump beneath the pillow. Tone quality comparable to cone-type speaker because of specially designed plastic diaphragm. Speaker gives ample output with low power consumption (.01 watt). Hermetically sealed, can be dipped into disinfecting solution (temperature not above 120°F.) Light weight BIMORPH* crystal drive element insures uniform response and high sensitivity. No parts to wear, loosen, or become detached. Furnished in black with satin chrome trim.

HUSHATONE* with 6' cord.

List Price $12.00

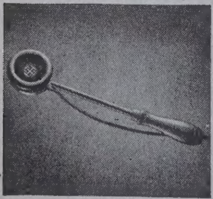
Net Wt. 8 oz. Shipping Wt. 2 lbs.
Code Sepim

HIGH FIDELITY MODEL "A-1"

For use where HIGH FIDELITY and extended frequency response are of paramount importance. (60 to 10,000 cps. Corrected for rising response below 200 cps.) Especially suited to monitoring, sound measurement, audiometry, and similar exacting headphone applications. Sensitivity approx. 1.5 bars per volt at 1,000 cps. Impedance over 80,000 ohm. at any frequency.

Headset complete with 5' cord and headband. List Price . . . $28.70
Net Wt. 6 oz. Shipping Wt. 2 lbs.
Code Mihif

BRUSH MODEL "A" LORGNETTE PHONE



The "A" lorgnette phone is designed for use in group hearing aid sound systems installed in churches, concert halls, theatres and auditoriums. Telescope extension from 12" to 17". Attractively finished in satin black. Light weight, easy to handle, and comfortable at the ear.

Single phone complete with 5' cord and lorgnette handle.

List Price $7.50

Net Wt. 5 oz. Shipping Wt. 1 lb.

Code Milme

COMMUNICATIONS MODEL "BJ"

Developed for COMMUNICATIONS work where light weight, durability, and uniform response are required. Soft rubber housing insures good ear seal and wearing comfort over long hours of constant use. High output impedance .008 mfd. (40,000 ohms at 500 cps), response 100 to 10,000 cps.

Headset complete with 5' cord and adjustable lock-type headband.
List Price $14.50
Net Wt. 6 oz. Shipping Wt. 2 lbs.
Code Micom

BRUSH MODEL "A" GENERAL PURPOSE

Designed for GENERAL PURPOSE applications including laboratory, studio and skilled amateur home use. The BIMORPH* crystal drive element insures wide range, uniform response (100 to 10,000 cps) and high sensitivity. High impedance; ideal for multiple installations.

Headset complete with 5' cord and adjustable lock-type headband.
List Price $13.25
Net Wt. 6 oz. Shipping Wt. 2 lbs.
Code Millo

BRUSH MODEL "A" SINGLE PHONE

Particularly adapted to individual or group hearing aid and radio applications. Light weight, good ear seal, and comfortable to wear. Spring steel headband with soft rubber end cushion to eliminate slipping.

Single phone complete with 5' cord and headband. List Price . . . $5.90
Net Wt. 3 oz. Shipping Wt. 1 lb.
Code Milod

BRUSH MODEL "B" SINGLE PHONE

Excellent for hearing aid applications because of extreme light weight. Has very low power consumption and high quality reproduction. Hermetically sealed against ear moisture and adverse humidity conditions. Same general characteristics as Communications Model BJ phones.

Single phone complete with 5' cord and headband.

List Price $6.10

Net Wt. 3 oz. Shipping Wt. 1 lb.
Code Mibor

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
Complete technical data on request
*Trade Mark Reg. U. S. Pat. Off.

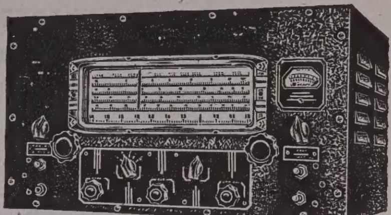
Meissner Amateur Equipment

14-tube "TRAFFIC MASTER" Communications Receiver

The answer to every Ham's ardent hope, the Traffic Master is the finest communications type receiver that could be designed with present tubes and circuit components! Available either in kit form, with complete instructions for assembling and wiring, or as a complete, laboratory-built receiver, ready for operation! Whether you build it yourself or buy the complete set—you get the same Meissner guaranteed quality—the most for your receiver dollar!

The Traffic Master provides full coverage from 540 kc to 31.6 mc, in five bands, accurately calibrated on the big linear dual-control dial. Separate band-spread control, calibrated 0-100, makes tuning in congested bands childishly simple! Heavy fly-wheels on both main and band-spread tuning controls for rapid coverage. In the kit the complete tuning unit is already assembled and aligned—the entire front end of the receiver up to the I-F channel—ready to drop into place on the chassis—only six wires to connect it to the rest of the set!

All parts are included in the Complete Kits, except tubes and speaker; punched chassis, 5-band tuning unit, band-spread dial, air-tuned I-F transformers, crystal-filter, B-F-Osc., illuminated "R" meter, controls, power transformer, condensers, resistors, sockets, etc



COMPLETE KITS

14-tube Traffic Master, less panel and cabinet,
No. 10-1174—Amateur Net Price...........$100.00

14-tube Traffic Master, with panel and cabinet,
No. 10-1173—Amateur Net Price..........$107.50

No. 11-8219—Front Panel only. **Net Price....$2.75**

No. 11-8224—Cabinet only. **Net Price........ 5.75**

ESSENTIAL PARTS KIT

Contains all "special" parts not generally available in distributors stock; includes 5-band tuning unit, bandspread dial, punched chassis, crystal-filter and B-F-O units, and all I-F transformers, with complete instructions and parts lists. Save money by buying this economical kit as most of the remaining parts you may have on hand!

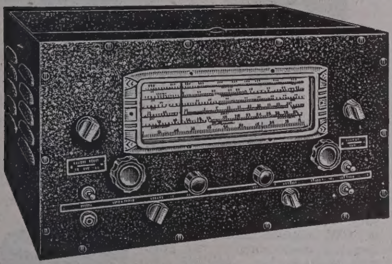
No. 12-1030—Essential Parts Kit. **Net Price.$62.25**

LABORATORY-BUILT RECEIVER

Built to match the finest commercial job on the market—the Traffic Master in complete form—ready for immediate operation! Assembled, wired, and accurately aligned in the Meissner Lab—thoroughly "air-tested" before shipment. A truly outstanding receiver at a moderate price! Complete with full set of tubes; less speaker.

No. 9-1052—Traffic Master Receiver. **Net $136.75**

9-tube "TRAFFIC SCOUT" Communications Receiver



Incorporating every feature you have always wanted in a "ham" set, this splendid receiver may be purchased either in "Kit" form or as a completely assembled and laboratory-wired instrument! Whether you build it yourself from the kit or buy the laboratory-built receiver, you are assured of the same eye-opening results that have made this set so popular! Full band-spread with dual-control fly-wheel tuning for rapid coverage; pre-aligned 5-band coil assembly, covers 540 kc to 31.6 mc; bandspread tuning condenser; punched steel chassis; crystal filter unit; B-F-O unit; I-F transformers; sockets; resistors; condensers; controls; hardware—everything needed is included in the complete Kit! Anyone can build this fine receiver by following the detailed instructions and diagrams furnished with every kit.

COMPLETE KITS

All parts necessary to build the Traffic Scout are furnished with the exception of tubes and speaker. Detailed Schematic and Pictorial Diagrams and Instructions with every kit.

9-tube Traffic Scout, less panel and cabinet,
No. 10-1170—Complete Kit, **Net Price......$71.75**

9-tube Traffic Scout, with panel and cabinet,
No. 10-1169—Complete Kit. **Net Price......$78.75**

No. 11-8246—Steel Front Panel. **Net Price...$2.30**

No. 11-8224—Steel Cabinet. **Net Price........ 5.75**

LABORATORY-BUILT RECEIVER

For the Ham who prefers a ready-built receiver, the Traffic Scout is offered completely assembled and wired; accurately aligned and "air-tested"; complete with full set of tubes; less speaker.

No. 9-1051—Traffic Scout Complete Receiver. **Net Price.............$100.50**

ESSENTIAL PARTS KIT

Contains all "special" parts required to build the Traffic Scout; includes chassis, dial, tuning condenser, 5-band pre-aligned coil unit, I-F Transformers, X'tal filter and B-F-O; with instructions.

No. 12-1029—Traffic Scout Essential Kit. **Net Price................$55.75**

ULTRA-HI FREQUENCY TRANSCEIVER

2½-Meter Portable

A complete, combination transmitter and receiver for phone operation on the 2½-meter band—covers 112 to 120 mc—battery operated. Steel case is only 12" square and 5¾" deep, finished in "battleship" gray with attractive panel design in ivory. Uses one each type 7A4, 6G6G and 6SJ7 tubes; distance range is 5 to 30 miles, depending on terrain. A perfected super-regenerative type receiver circuit is employed with separate quench oscillator to give absolutely stable operation. Vertical rod antenna telescopes into top of case when not in use; compartment in rear of case provides space for carrying phones and mike or combination handset. Either crystal or carbon type microphone may be used.

A Precision Type Instrument for Amateur, Commercial or Military Applications

Easy to Operate

No re-adjustments necessary when changing from send to receive; constant antenna load—no ticklish coupling controls; light in weight—only 12½ lbs. with batteries. Furnished complete with tubes, less batteries, phones and mike.

No. 9-1081—Ultra-Hi Frequency Transceiver...........**Price on Application**

CRYSTAL OVEN

For Positive Temperature Control

Designed especially to fit into the Signal Spotter but may be used with any Crystal Oscillator unit! Holds up to four mounted crystals; provides accurate temperature regulation within plus or minus 1 degree C. Steel outer shield is 4⅞" square by 4⅜" high; crystals in inner chamber of heavy cast aluminum with thick insulating material in walls; terminals on top for connection of 6.3-volt heater supply.

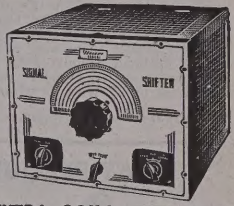
No. 9-1046—Crystal Oven, Complete, (less crystals). **Net Price......$15.25**

Watch for these
NEW MEISSNER PRODUCTS!
High-Frequency Combination FM-AM Receptors for Amateur and Commercial Use
Dual-Speed Portable Phono-Radio-Recorder
— SOON TO BE RELEASED —
Write for Complete Information

SIGNAL SHIFTER

The "Time-Proven" E-C-O

Variable-frequency exciter delivering T9X output of 7½ watts on any of five popular bands! Uses 6F6 oscillator, 6L6 doubler, 2 voltage regulators and a rectifier; tuned by new type vernier dial; no backlash or parallax; link-coupled to control frequency of any transmitter—directly from operating position; arranged for oscillator or doubler keying with built-in filter; relay provides automatic operation with transmitter; provides true CRYSTAL stability in an E-C-O!



COMPLETE—READY TO OPERATE

The Signal Shifter is complete with tubes and one set of coils for any band specified; 10-meter coils cover 14- to 15 mc, to be doubled in transmitter.

EXTRA COILS, SETS OF 3

Cat. No.	Band	
18-2915	160-meter	Amateur
18-2916	80-meter	Net
18-2917	40-meter	$2.75
18-2918	20-meter	Per
18-2919	10-meter	Set

No. 9-1058—Signal Shifter, 110-v. in black cabinet. **Net Price.......$52.25**

No. 9-1057—Signal Shifter, 110-v. in gray cabinet. **Net Price........ 52.25**

No. 9-1059—Signal Shifter, 220-v. black or gray. **Net Price.......... 55.50**

No. 9-1060—Signal Shifter, 110-v. on rack panel. **Net Price.......... 57.25**

SIGNAL SPOTTER

Companion Unit to the Signal Shifter

A crystal-controlled, precision-built oscillator, with pre-tuned tank circuits to permit the use of four crystals! Desired crystal frequency instantly selected by switch on panel; power is derived from the Signal Shifter through a cable at the rear; control switch on the Shifter panel selects E-C-O or Crystal output as desired. The four crystal frequencies may all be on any one Amateur band or divided over any two bands; indicator on panel for oven thermostat if Crystal Oven is used.

SIGNAL SPOTTER

COMPLETE PRECISION CONTROL SYSTEM

The "Signal-Spotter, Signal-Shifter" COMBINATION provides the last word in a modern, precision-type frequency control system for the Amateur Transmitter! Use the Spotter for band-edge operation, traffic networks, etc.—the Shifter for general band operation on whatever frequency is best!

EXTRA COILS

Cat. No.	Band
18-2936	160-meter
18-2937	80-meter
18-2938	40-meter
18-2939	20-meter

Net Each.....$0.95

Supplied complete with tubes and any two coils specified:

No. 9-1043—Signal Spotter, in gray cabinet. **Net Price...............$24.75**

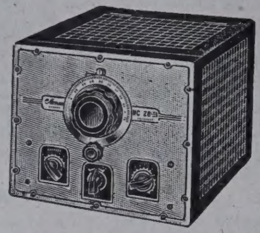
No. 9-1044—Signal Spotter, in black cabinet. **Net Price............... 24.75**

Meissner PRECISION-BUILT PRODUCTS

Meissner Amateur Products

MC 28-56 CONVERTER

For 5- and 10-meter Bands

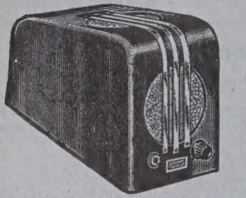


This precision-built instrument is responsible for many of the records established in recent years on the high-frequency bands! The popular choice of Amateurs and Experimenters everywhere. Designed for full coverage of the 28- to 30-mc and the 56- to 60-mc bands; tuning simplified by precision-type vernier dial, augmented by separate trimmer control. Incorporates a high-C oscillator circuit, fully stabilized by voltage-regulated power supply; insures complete signal stability! Uses an 1852 R-F amplifier, 6F6 oscillator, and 1852 mixer, with a 6X5 rectifier and VR-150 regulator. Average signal gain is 20 DB! Selector switch selects band or connects antenna directly to receiver; output frequency adjustable from 6.9 to 7.4 mc; manual gain control provided. Furnished complete with tubes, ready to operate, in black crackle cabinet 11¼″ wide, 9″ high and 11½″ deep.

No. 9-1032—MC 28-56 Converter, 110-v., 60-c., Complete. **Net Price**..........................**$49.50**

UNI-SIGNAL SELECTOR

For Noiseless C-W Reception



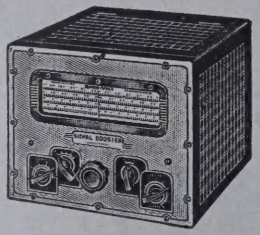
The most outstanding Amateur Radio development in recent years! Takes up where the X'tal Filter leaves off; provides super selectivity on ANY receiver! For use on CW only—too sharp for fone use—provides clear 1000-cycle note regardless of condition of signal. This unit is a combination electrical, mechanical and acoustical filter; connects in place of regular speaker; speaker connects to terminals on rear of Selector; switch on front of unit provides regular speaker output or Selector output. No internal connections to receiver—uses no power! Matches any 4,000 to 5,000 ohm output; installation is extremely simple. Special "Stethoscopic" headphones may be plugged into coupling "jack" in front of unit for private listening.

No. 9-1026—Uni-Signal Selector, Complete, less headphones. **Net Price**.......................**$15.25**

No. 26-1001—Special "Stethoscopic" Headphones. **Net Price**............................**5.50**

SIGNAL BOOSTER

Four-Band Preselector

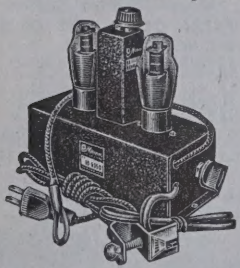


Regardless of the type receiver you are using—regardless of the number of R-F stages you have—you will find the extra gain provided by the SIGNAL BOOSTER will make possible many solid 100% QSO's that would otherwise be missed. Has an average signal gain of 40 DB! Uses two high-gain R-F stages with type 1852 amplifier tubes; three tuned circuits for maximum selectivity and image attenuation; complete coverage from 1600 to 31,000 kc in four bands; slide-rule dial with 7¼″ linear scales, accurately calibrated! Antenna Compensator for accurate impedance match; connections for single or doublet antenna; switch connects antenna directly to receiver to cut out preselector without turning it off; includes manual gain control. Furnished complete with tubes for operation from 110 volts, 60 cycles; black crackle finish cabinet is 11¼″ wide by 9″ high by 11½″ deep.

No. 9-1031—Signal Booster, Complete with tubes. **Net Price**..................................**$47.75**

BEAT-FREQUENCY OSCILLATOR ADAPTER UNIT

For C-W on Any Receiver



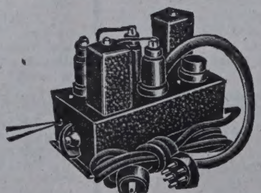
The simplest method of adding a beat-frequency oscillator for reception of C-W signals or assistance in locating weak stations. May be used with any receiver having a 456- to 465-kc I-F channel. Completely self-powered; operates on 110 volts, AC or DC. No internal connections to the receiver are required—just a coupling loop for the top grid of the I-F tube! Has output attenuator on end of chassis; pitch control on top of coil shield; clamp-on switch for "On-Off" control. Supplied either as a complete kit of parts or as wired unit—ready to operate—less tubes. Tubes used are one 6C5G and one 25Z6G. Chassis is finished in black crackle; extra 110-volt receptacle located in end of chassis for radio or other attachments.

No. 10-6350—B-F-O Adapter Unit, Complete Kit. **Net**....**$7.75**

No. 9-1012—B-F-O Adapter, Wired Unit. **Net**...........**10.00**

NOISE-SILENCER ADAPTER UNIT

Eliminates 90% QRN on Any Set

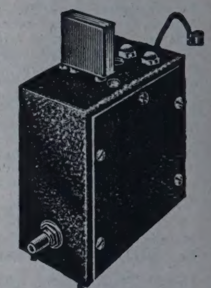


A useful addition to any receiver with a 456- to 465-kc I-F system. Using the famous "Lamb" principle, it effectively reduces static peaks and man-made noises to a very low level. Permits enjoyable short-wave reception in districts where the noise level is unusually high! Uses four tubes and operates on 110 volts, AC or DC. Very simple connections to any receiver are fully explained in detailed instructions and diagrams supplied with each unit. Available either as a complete kit of parts, less tubes, with detailed wiring instructions, or as a completely wired and tested unit, ready to operate. Tubes required are one each type 6K7, 6J7, 6L7 and 6H6. Has noise level control on one end of chassis and extra 110-volt receptacle on other end for radio or other appliance. Chassis finished in black crackle.

No. 10-7516—Noise Silencer Adapter, Complete Kit with instructions. **Net Price**..............**$7.75**

No. 9-1011—Noise Silencer Adapter, Complete Unit, ready to operate. **Net Price**..............**10.00**

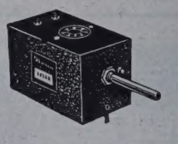
CRYSTAL FILTER UNIT



Mono-unit X'tal Filter as used in Traffic-Master receiver; complete and ready for installation in any communications type receiver. Only four connections to make; contains matched transformers with air-dielectric peak adjustors phasing condenser with crystal cut-out switch, no-drift coupling condenser and precision quality 456-kc mounted crystal. In black crackle finished shield, 2⅛″ wide, 3⅞″ deep, 4⅝″ high.

No. 9-1042—Net $15.00

BEAT-FREQ. OSC. UNIT



For use with any receiver with 456-kc I-F; has only four connections and includes 6SJ7 socket; trimmer on top for rough adjustment; air condenser for panel-operated pitch control on front. In black crackle shield, 2⅜″ x 3⅞″ x 2¼″.

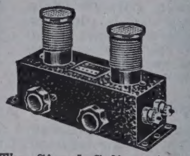
No. 9-1049—Beat-Freq. Osc. Unit........**Net $4.00**

B-F-O TRANSFORMERS

For use with a separate triode oscillator to provide the necessary "beat-note" for reception of CW signals and to aid in locating weak stations; an absolute necessity on amateur communications type receivers. Knob on top controls pitch of beat note; separate trimmer to adjust the BFO frequency to match the I-F. With air trimmers, 2″ sq. x 4½″; with mica trimmers, 1⅜″ sq. x 3½″.

Mica Trim **Cat. No.**	**KC**	Air Trim **Cat. No.**
......	262	17-6773
......	370	17-6777
17-6753	456	17-6779
17-8175	1500	......
......	3000	17-6793
Net Price **Each $1.20**		**Net Price** **Each $2.50**

SIGNAL SPLICER



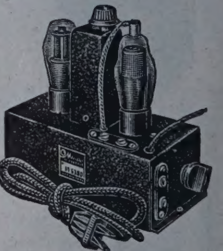
Accurately matches any antenna to any receiver; provides high signal gain without tubes! Reduces noise pickup and improves image rejection. One set of coils furnished for use on any band; full instructions included; extra coils available

The Signal Splicer is a well-designed pi-network arranged to be connected between the antenna and the receiver. Dual air-electric capacitors provide adjustment for matching impedances.

No. 9-1022—Signal Splicer,...**Complete, Net $4.50**

No. 18-2950—Extra Coils.......**Per Pair, Net 1.10**

WIRELESS PHONO OSCILLATOR



Provides reproduction of records through any radio set; acts as miniature broadcaster to transmit recording to the receiver without intervening wires; signal is tuned in on radio just as any other station! Operates in radius of 20 to 50 ft.; self-powered; operates on 110 volts AC or DC; has receptacle for phono motor. Uses a 6F7 and 25Z5; tubes not supplied.

Available as complete kit of parts or as factory-wired unit; both with detailed instructions.

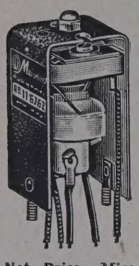
No. 10-6380—Complete Kit..............**Net $5.70**

No. 9-1010—Factory-wired ....**Net 8.10**

Meissner PRECISION-BUILT PRODUCTS

Meissner Amateur Accessories

NOISE SILENCER I-F TRANSF.

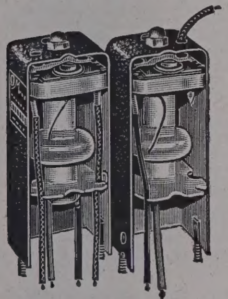


Special, close-coupled transformers for use in "Lamb" type noise-silencer circuits. Complete range of I-F frequencies available, with air or mica dielectric trimmers; air-tuned units are 2" sq. x 4½"; mica-tuned units 1⅜" sq. x 3½".

Mica Trim Cat. No.	KC	Air Trim Cat. No.
......	175	17-6857
17-6849	262	17-6859
17-6851	370	17-6867
17-6762	456	17-6869
......	3000	17-6881

Net Price, Mica-Trim...**$1.20**; Air-Trim...**$2.50**

CRYSTAL-FILTER I-F TRANSF.



Supplied in matched pairs; designed to provide a low-impedance link-coupled filter circuit for superhet receivers. Input unit has tuned primary and low-impedance secondary; output unit has low-impedance primary and tuned, high-impedance secondary. Coupling is set to give optimum gain; selectivity provided by crystal in link circuit. In black crackle cans.

Mica Trimmers Cat. No.	Frequency KC	Align-Aire Trimmers Cat. No.
17-7450	175	17-7455
17-7451	262	17-7456
17-7452	370	17-7457
17-7453	456	17-7458
17-8183	1500	......
17-7454	3000	17-7459

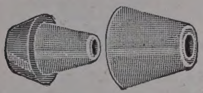
Net, Per Pair, $2.65 **Net, Per Pair, $5.25**

CONICAL STAND-OFF INSULATORS

High-density, glazed ceramic in four popular sizes for Amateur transmitters; both ends tapped for screws.

Cat. No.	Dia.	Ht.	Tap	Net
27-1001	1"	1"	8/32	$0.17
27-1002	1"	1½"	8/32	.17
27-1003	1⅛"	2"	10/32	.30
27-1004	1½"	3"	10/32	.50

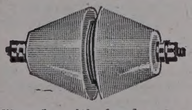
2-PIECE FEED-THRU INSULATORS

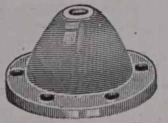


Designed to provide extra-long leakage path; glazed surface, high-density ceramic. Supplied wih cork gaskets and hardware.

No. 27-1005 ⅝" dia. ¾" long **Net Price $0.24**
No. 27-1006 ¾" dia. 1" long **Net Price .27**

LEAD-IN INSULATORS





Glazed, with hardware.

No.	Dia.	Net
27-1010	1¼"	$0.47
27-1011	1¾"	.57

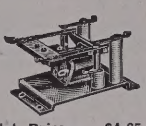
Glazed; 5¼" dia.; 2⅝" H.
No. 27-1012 Net $4.30

"ALSIMAG 35" CYLINDERS

Unglazed cylindrical forms in several sizes; suitable for stand-off insulators for high-voltage circuits, mountings for condensers, tank coils, etc. Ends tapped.

No.	Dia.	Length	Tap	Net
27-1013	⅜"	⅝"	6-32	$0.07
27-1014	⅜"	1¼"	6-32	.10
27-1015	⅜"	2"	6-32	.10
27-1016	½"	¾"	6-32	.14
27-1017	$\frac{9}{16}$"	2"	6-32	.27
27-1018	⅝"	2¾"	6-32	.30
27-1019	$\frac{9}{16}$"	3¼"	6-32	.33

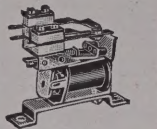
ANTENNA RELAY



Provides efficient, fast, and noiseless switching of the antenna from receiver to transmitter. Ceramic insulated; handles a full KW; metal parts chromium plated. Works on 110 volts AC; base is 3⅛" by 4¼"; only 2⅝" high!

No. 28-1004—Antenna Relay. **Net Price.....$4.65**

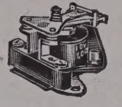
R-F RELAYS



Fully insulated with highest-grade ceramic; may be used in any R-F or power circuit, regardless of frequency. Large contacts and long-life phosphor-bronze springs insure efficient operation with minimum losses; for 110 v. AC.

No. 28-1001—D-P-D-T R-F Relay. **Net......$3.65**
No. 28-1002—S-P-D-T R-F Relay. **Net..... 2.65**

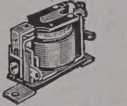
POWER RELAY



Designed to handle 20 amperes, non-inductive load; has "double-break" contact system; heavy 5/16" silver contacts; operates on 110 volts AC; bakelite base.

No. 28-1003—Power Relay.........**Net Price $3.00**

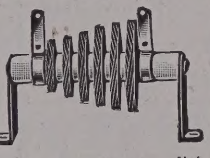
KEYING RELAY



Very compact; will break up to 1500 volts at contacts; operates on 5 to 15 volts AC; adjustable tension spring; single "make circuit" type; bakelite insulated.

No. 28-1000—Keying Relay,.......**Net Price $2.35**

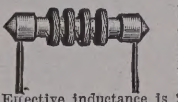
★ TRANSMITTER CHOKES ★



Highly efficient for Amateur and Commercial use; six lateral wound sections provide effective action over wide frequency range. Windings on ceramic form with tapped ends; mounting brackets included.

Cat. No.	Induct.	Current	Ohms	Net
19-3019	2.8 MH	1000 MA	5.0	$1.32
19-3022	5.5 MH	500 MA	12.5	1.16
19-3025	5.9 MH	200 MA	34.9	1.16

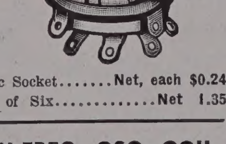
★ UNIVERSAL R-F CHOKES ★



A very efficient radio-frequency choke for use in receivers and low-power stages of transmitters. With a DC resistance of only 35 ohms, this little choke will handle up to 125 milliamperes! Effective inductance is 2½ millihenries; distributed capacity is extremely low.

No. 19-1996.....................**List Price $0.28**

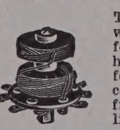
CERAMIC OCTAL SOCKETS



For any high-frequency circuit; glazed ceramic insulation with heavy steel mounting saddle; fits standard 1½" centers, uses 1⅛" hole; four grounding lugs formed on saddle; bronze contacts.

No. 25-8437—Ceramic Socket.......**Net, each $0.24**
No. 25-8439—Carton of Six.............**Net 1.35**

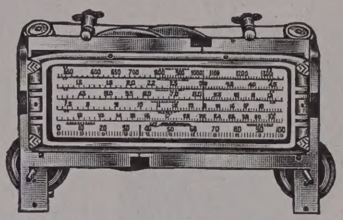
INTERRUPTION-FREQ. OSC. COIL



Two high-impedance, universal-wound coils, mounted on a single form with iron cores to provide high inductance. Specially designed for use in super-regenerative receivers, operating on ultra-high frequencies, 30 to 120 mc. Bakelite terminal base.

No. 14-7832 ....**Net Price $0.90**

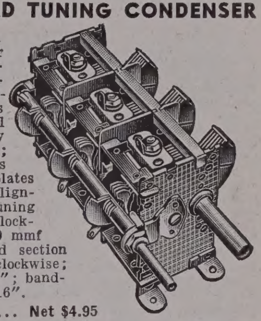
DUAL-CONTROL DIAL



A super-smooth tuning mechanism of great precision, specially designed for use with the Bandspread Condenser below. Used on Meissner Traffic Master and Traffic Scout receivers; has two ¼" dia. operating shafts, both equipped with flywheels; dual drums have ⅜" and 3/16" hubs to fit condenser shafts. Translucent scale, rear illuminated, 5-bands calibrated 540 kc to 31.6 mc.

No. 23-8229—Dual Control Dial..........**Net $8.25**

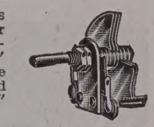
BANDSPREAD TUNING CONDENSER



Finest precision tuning condenser available; designed for Meissner Communications Receivers with dual-control dial above; fully ceramic insulated; rigid spacing bars and heavy end plates maintain perfect alignment; main tuning section closes clockwise and has 280 mmf max.; bandspread section closes counter clockwise; main shaft is ⅜"; bandspread shaft, 3/16".

No. 21-5143B ..... Net $4.95

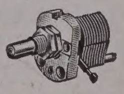
MIDGET VARIABLE CONDENSER



Standard type with low-loss bakelite insulation; excellent for general use in short-wave receivers; single-hole mounting, ¼" diameter shaft; metal end-plate with long sleeve bearing and bronze rotor wiper; takes ⅜" hole in panel up to ¼".

Cat. No.	Plates	MMf. Range	Net
21-5163	3	3.0 to 15	$0.60
21-5164	5	3.2 to 30	.63
21-5168	14	4.3 to 100	.84
21-5170	20	5.0 to 140	.96

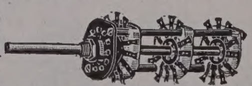
MIDGET CERAMIC VARIABLE



Exceptionally compact; ceramic plate is only 15/16" by 1¼"; fits in single ⅜" dia. hole in any panel up to ¼" thick; long sleeve bearing eliminates wobble; ideal for all high-frequency work.

Cat. No.	Plates	MMf. Range	Net
21-5173	3	2.4 to 10	$0.90
21-5174	7	3.0 to 25	.93
21-5175	14	3.5 to 50	.99
21-5176	20	4.5 to 75	1.05
21-5177	27	5.0 to 100	1.11
21-5178	37	6.5 to 140	1.17

CERAMIC ROTARY SWITCHES



A new type switch especially built for Amateur and Commercial application in transmitters, U-H-F receivers, converters, etc. Switch wafers are of high-grade, low-loss ceramic, close-packed to reduce humidity effects to a minimum. Contacts are silver plated for lower resistance; adjustable stop permits use of as many positions as required; moving contact shorts adjacent points during rotation—circuit is never open. Arranged for mounting in single ⅜" diameter hole on any panel up to ¼" in thickness; over-all diameter is 1⅞"; wafers are 1½" apart; may be shortened by cutting spacers; flatted, ¼" dia. shaft extends 2" from front bushing.

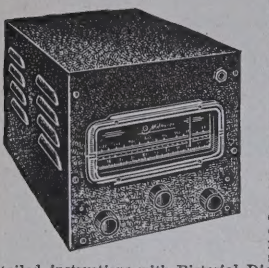
Cat. No.	Gangs	Poles	Positions	Net
24-8270	One	One	2 to 12	$1.85
24-8271	Two	Two	2 to 12	3.00
24-8272	Three	Three	2 to 12	4.15

NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner PRECISION-BUILT PRODUCTS

Meissner P-A Tuners and Test Equipment

HIGH FIDELITY P-A TUNER



Specially designed for highest quality reception from local or semi-distant powerful Broadcast stations. Noise-free T.R.F. circuit with band-pass transformers provide true "high-fidelity" reproduction; audio response essentially flat from 40 to 10,000 cycles. Four tuned circuits provide ample selectivity; perfected automatic volume control holds output level constant. Tunes regular Broadcast band. Self-powered, operates on 110 volts, 50 to 60 cycles. Available either in Complete Kit form or as a complete wired and tested unit ready to operate. Kit does not include tubes; tubes are furnished with wired unit. Uses 2—6K7, 1—6H6, 1—6F8G and 1—5Z4. Complete Kit includes punched chassis, coils, tuning condenser, dial, power transformer, chokes, resistors, condensers, hardware, wire, solder and other miscellaneous parts. Detailed instructions with Pictorial Diagrams.

No. 10-1152—High-Fidelity P-A Tuner Kit, without Panel and Cabinet. Less Tubes, **List Price**..**$45.75**

No. 10-1172—High-Fidelity P-A Tuner Kit, with Panel and Cabinet. Less Tubes. **List Price**..**$51.25**

No. 9-1034—High-Fidelity P-A Tuner, Fully Tested, in Cabinet. With Tubes. **List Price**..**$77.50**

"UTILITY" P-A TUNER

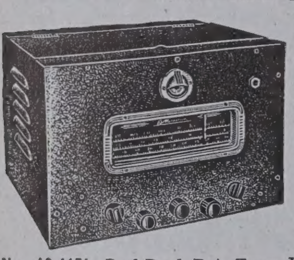
A general-purpose Tuner, identical in size and general construction to the High Fidelity model described above except for use of straight tuned radio-frequency circuits without band-pass coils. Ferrocart, iron-core, coils are used, however, providing an additional degree of sensitivity without material loss in selectivity. Four tuned circuits are employed and this Tuner may be used for distant as well as local reception. Frequency coverage 530 to 1600 kc; calibrated rectangular dial has linear scales 5¼" long. Full automatic volume control. Specially designed filter circuits in power supply keep hum level at absolute minimum. Operates on 110 volts, 50 to 60 cycles. Available either as a completely wired and tested unit, ready to operate, including tubes, or in a complete Kit containing all parts required for construction, less tubes. Tubes used: 3 6K7, 1 6H6, 1 6F8G and 1 5Z4. Detailed instructions and Diagrams.

No. 10-1119—"Utility" P-A Tuner Kit, without Panel and Cabinet. Less Tubes. **List Price**..**$38.50**

No. 10-1178—"Utility" P-A Tuner Kit, with Panel and Cabinet. Less Tubes. **List Price**..**$44.00**

No. 9-1033—"Utility" P-A Tuner, Fully Tested, in Cabinet. With Tubes, **List Price**..**$71.50**

DUAL-BAND P-A TUNER



Where distant reception is a necessity or short-wave programs are desired. Covers 540 to 1600 kc and 5.9 to 18.8 mc; sensitive superheterodyne circuit with RF stage on both bands. Uses Ferrocart, iron-core, I-F Transformers for extra gain and selectivity. Incorporates full AVC with diode second detector and dual triode output coupling tube. Output impedances same as High Fidelity model above. Complete unit, ready to operate, is furnished with a full set of tubes; Tuner in Kit form is supplied without tubes. Tubes used: 2 6K7, 1 6K8, 1 6H6, 1 6F8G, 1 6G5 and 1 5Z4.

No. 10-1151—Dual-Band P-A Tuner Kit, less tubes; without Panel and Cabinet. **List Price**..**$46.25**

No. 10-1171—Dual-Band P-A Tuner Kit, less tubes; with Panel and Cabinet. **List Price**..**$52.00**

No. 9-1035—Dual-Band P-A Tuner, Complete Unit with Tubes, in Cabinet. **List Price**..**$80.50**

P-A TUNER PANELS AND CABINETS

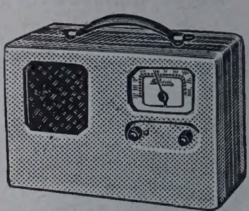
No. 11-8243—Front Panel for "Utility" or High-Fidelity Tuner. 8⅜" x 8⅜". **List Price**..**$1.50**

No. 11-8200—Cabinet for "Utility" or High-Fidelity Tuner. 8⅜" x 8⅜" x 12½". **List Price**..**$5.25**

No. 11-8236—Front Panel for Dual-Band P-A Tuner. 10" x 14". **List Price**..**$2.00**

No. 11-8212—Cabinet for Dual-Band P-A Tuner, black crystal steel. 10" x 14" x 11". **List Price**..**$6.50**

AC-DC, BATTERY PORTABLE SUPER KIT



Here's absolutely the latest in a portable radio receiver—a real companion set, always ready in any location, under any circumstances, to bring you whatever is on the air! Covers the regular Broadcast band from 535 to 1600KC. Extremely compact, light in weight, yet contains its own power in the form of dry batteries and its own loop antenna. Equipped also to connect to regular 110-volt power line, either AC or DC, thus effecting a valuable saving in battery life. Also provided with connection for external antenna. Supplied in kit form for home construction, its initial cost is the lowest possible for a set of this quality. Uses latest type, low-drain battery operated tubes. Estimated battery life is approximately 70 hours for the "B" and 220 hours for the "A" battery during actual battery operation. The attractively finished, sturdy "airplane luggage" style case is only 6½" x 8½" x 13¼". Tubes required are one each types 1A7GT, 1H5GT, 3Q5GT, 117Z6GT and two type 1N5GT; tubes are not supplied with kit.

Build It Yourself—

Anyone can build this remarkable little receiver in a few hours—only tools required are pliers, screwdriver and soldering iron! Full instructions and Pictorial Diagrams. All parts are furnished (except tubes and batteries) including punched chassis, coils, sockets, resistors, condensers, dial, tuning condenser, speaker, etc. Loop antenna is ready built. Two 4½-volt "A" batteries, and two 45-volt "B" batteries are required.

No. 10-1190—Complete Kit for AC-DC, Battery Portable Super, less tubes, batteries and cabinet. **List Price**..**$38.50**

No. 10-1189—Complete Kit for AC-DC, Battery Portable Super, including cabinet; less tubes and batteries. **List Price**..**$45.00**

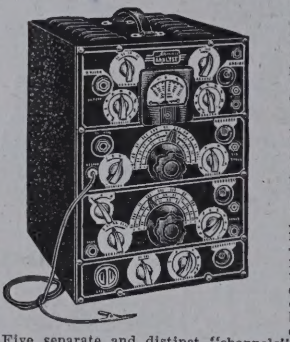
No. 11-8257—Portable Cabinet, 6½" x 8½" x 13¼", finished in brown airplane-luggage canvas. **List Price**..**$7.75**

"Essential" Kit

Contains all "special" parts such as tuning condenser, dial, punched chassis, coils, I-F transformers and loop antenna. All other parts such as fixed condensers, resistors, sockets, speaker, etc. are readily obtainable from general stock. Complete detailed instructions and diagrams with parts list also furnished. Here's your chance to build a really fine, fully engineered portable receiver at very low cost!

No. 12-1031—Essential Kit. **List Price**..**$25.50**

★ NEW MEISSNER "ANALYST" ★



THE MODERN SERVICE INSTRUMENT—Undoubtedly the most modern complete servicing instrument on the present day market. Handles the receivers of yesterday, today and tomorrow — with equal efficiency and facility! Entirely fundamental in its testing procedure. Will never become obsolete. **SAVES TIME — SAVES MONEY**—The use of the new Meissner ANALYST will not only permit you to make more money by handling a greater number of service jobs in a given time but it will give you additional assurance that these jobs will "stay sold." **SERVICES BY "SIGNAL TRACING"**—The new Meissner ANALYST tests receivers and locates faults by the "signal tracing" method —proven to be the fastest and most reliable method known at the present time. It is NOT, however, just another signal tracer! It is completely equipped with all devices that might be needed to make simultaneous checks on various parts of the receiver circuit. Five separate and distinct "channels" provide as many different functions; all controls are accurately calibrated with functions clearly indicated.

Complete—Ready to Go to Work

The new Meissner ANALYST is completely wired, aligned and laboratory tested. Furnished complete with a full set of 12 tubes, it is all ready to be put into service the minute it is unpacked and connected to the 110-volt line! No alignment or adjustments are necessary—just read the instructions, hook it up and go to work!

Complete Book of Instructions, supplied with the new Meissner ANALYST, gives detailed directions for use of this instrument in locating all kinds of radio troubles.

No. 9-1040—New Meissner ANALYST, complete with tubes, prods, and Instruction Book; ready to operate. **Net Price**..**$96.25**

★ SIGNAL CALIBRATOR ★

Precision Frequency Standard

100 KC, 50 KC and 10 KC "markers" up to 20,000 KC — Push-button control of frequency — Delivers modulated or unmodulated signal — Easily set . . . Instantly checked — Well ventilated cabinet — Precision accuracy.

The Model 9-1076 Signal Calibrator is designed to operate from a 115 volt, single phase, 50/60 cycle AC power source. The power required is approximately 40 watts.

The Model 9-1076 Signal Calibrator is a portable self-contained unit designed to generate extremely accurate "marker" signals over the RF range of 10 KC to 20,000 KC. The "Signal Calibrator" is a secondary frequency standard against which unknown frequencies may be checked and accurately determined. The Signal Calibrator provides the means for checking and adjusting radio transmitters, radio receivers, laboratory equipment etc., as follows:

A. To accurately adjust the radio transmitter to a desired frequency.

B. To accurately adjust the radio receivers to a desired frequency.

C. To accurately measure and determine the unknown frequency of an incoming signal.

The Model 9-1076 Signal Calibrator may also be used as a signal source for work on the test bench in servicing radio receivers and associated equipment. Component parts are mounted on a single chassis to which the front panel is attached. Located on the front panel are all controls required in the operation of the unit. The function of each control is clearly designated on the front panel.

The Signal Calibrator is housed in a steel cabinet, 8¼" wide, 8¼" high and 12¼" deep. The cabinet is finished in durable black wrinkle enamel.

The instrument incorporates a precision type, quartz crystal operating on 100 KC. This crystal is easily adjusted, by front panel control, to exact frequency as determined by "beat" against the Bureau of Standards station, WWV, or against other stations of known accuracy in frequency. Two multivibrators provide output on 50 KC, 10 KC and multiples thereof up to 20,000 KC.

The output signal, produced by the Signal Calibrator, may be amplitude-modulated if desired. Modulation, at 60 cycles per second, is controlled by the front panel "Modulation" control.

The tube complement of the Model 9-1076 Signal Calibrator is as follows: 3 type 6SJ7GT, 2 Type 6N7GT, 1 Type 6SK7GT and 1 Type 6X5GT.

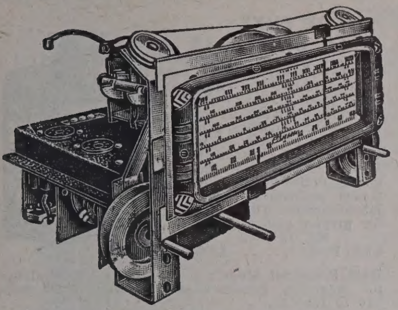
No. 9-1076—Signal Calibrator, Complete with tubes........**Net Price $78.75**

NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner **PRECISION-BUILT PRODUCTS**

Meissner Tuning Units, F-M Parts, R-F Coils

ALL-WAVE TUNING UNITS



"Communications" type has five frequency-calibrated scales; additional 0-100 scale at bottom for band-spread pointer. Uses dual-control bandspread dial (23-8229) and ceramic-insulated tuning condenser (21-5143B). Incorporates coil assembly No. 13-7617 described below. Used in Meissner "Traffic Master." "Custom" type employs a single-speed vernier dial mechanism (23-8230) with five frequency calibrated scales. Uses three-gang tuning condenser (21-5141B) and coil assembly No. 13-7610, described below. Used in Meissner "Custom 12." Each unit includes complete RF, Mixer and Oscillator coils for all bands; shielded band switch, Align-Aire trimmers, tube sockets and associated resistors, condensers, etc., in addition to parts listed above. Entire assembly mounted on black crackle-finished steel chassis, 8¼" long and 5" wide, ready to be dropped into place. Just 7 connections to make to feed into any 456 kc I.F. channel, including plate and heater leads.

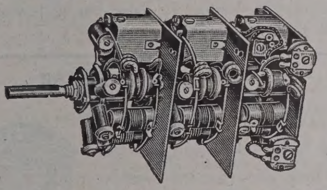
Communications Tuning Unit, 5-bands, 540 kc to 31.6 mc; uses 1853 (6AB7), 6K8 and 6J7G tubes. Completely wired, aligned and tested for sensitivity. Detailed instructions.

No. 13-7614—Less tubes. **List Price........$63.25**

"Custom" Broadcast Tuning Unit, 5-bands, 133 kc to 42 mc; uses two 1853 (6AB7) and one 6SA7 tubes. Furnished with complete instructions; wired, aligned and fully tested.

No. 13-7611—Less tubes. **List Price........$53.25**

MULTI-WAVE COIL ASSEMBLIES



For use in construction of All-Wave receivers. Contain coils, range-switch, shunt trimmers, series padders, AVC by-pass condensers and all necessary shielding. Provides high-gain RF stage on all bands; complete primary and secondary switching on all coils. Align-Aire (air-dielectric) trimmers on all bands assure minimum frequency drift; extremely short leadwires—all coils except 133-406 kc range are soldered directly to switch terminals. All units are compact, approximately 4" x 5" x 8"; have simple three-point mounting. Factory-wired, tested, aligned and padded. Complete instructions and diagrams.

For 410-Mmf Condenser

No. 13-7610—5 Band Assembly, Tuning Ranges: 537 to 1754 kc, 1.68 to 5.96 mc, 5.85 to 18.2 mc, 17.6 to 42.0 mc and 133 to 406 kc. **List Price, $32.50**

No. 13-7612—4-Band Assembly, Tuning Ranges: 537 to 1754 kc, 1.68 to 5.96 mc, 5.85 to 18.2 mc, and 17.6 to 42.0 mc. **List Price.............$28.00**

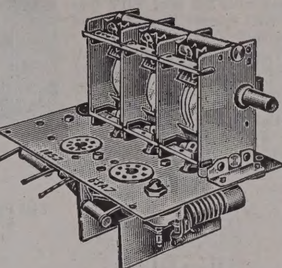
For 280-Mmf Condenser

No. 13-7617—5-Band Assembly, Tuning Ranges: 540 to 1580 kc, 1.5 to 4.5 mc, 4.1 to 12.2 mc, 7.3 to 18.8 mc. and 11.2 to 31.6 mc. **List Price, $32.50**

No. 13-7605—4-Band Assembly, Tuning Ranges: 1.5 to 4.5 mc, 4.1 to 12.2 mc, 7.3 to 18.8 mc, and 11.2 to 31.6 mc. **List Price.............$28.00**

FREQUENCY-MODULATION COMPONENTS

F-M Tuning Assembly



A complete front-end for any F-M receiver; covers 42 to 50 mc; designed for use with F-M dial below and to feed into 4.3-mc I-F system. Incorporates all components for antenna, mixer-oscillator and voltage regulator, wired, tested and aligned! Three gang special tuning condenser mounts on top of compact unit; fits chassis opening 3⅞" by 7"; only 2⅜" below chassis. Only five wires to connect to I-F channel and power supply.

No. 13-7621—List Price $19.50

7" F-M Dial

Single-band linear scale dial mechanism designed especially for use with home-built F-M receivers. Calibrated to match F-M Tuning Assembly above; tuning ratio 11 to 1 in 180 degrees. Escutcheon is 3½" by 8½"; dull gold.

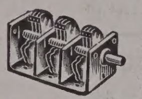
No. 23-8234—List Price $6.00

F-M Antenna—R-F—Osc. Coils

Designed for the experimenter to use in construction of F-M receivers; antenna coil may be used with single or doublet antenna. Cover the 42 to 50 mc F-M band with tuning condenser listed below. Coils are wound on moistureresistant plastic forms, 1" long; have ¾" diameter terminal base and single 4-36 stud for mounting to chassis.

No. 14-1034—Antenna Coil
No. 14-1035—Mixer Coil
No. 14-1036—Oscillator Coil
List, Each ....$ 0.85

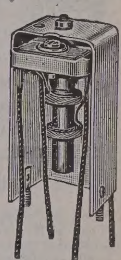
F-M Tuning Condenser



A special, extra-compact tuning condenser for use with coils described above. Only 2½" long, 1 5/16" high and 1⅜" wide! ceramic-sulated trimmers; ¼"-diameter shaft; 3 sections with 5 plates each; 7 to 22½ mmfd. range with trimmers open.

No. 21-5201—F-M 3-gang Tuning Condenser. **List Price...$3.75**

★ 4.3-mc. F-M I-F Transformers ★



Illustrated herewith, these high-grade transformers are specially designed with broad response characteristics for F-M circuits. In metal shield can 1⅜" square and 3" high; windings on molded plastic form; ceramic-base mica-dielectric trimmers; double-tuned.

No. 16-6664—List Price $1.93

★ Discriminator Transformers ★

Heart of the F-M circuit; accurately peaked at 4.3 mc. Available in standard mica-trim type (1⅜" x 3") and special air-trim type (1⅜" x 1⅞" x 4"). Mica-trim unit has coils on plastic form; air-trim type uses ceramic coil form. Color-coded leads.

No. 17-3483—Mica-trim type. **List Price..$2.75**

No. 17-3482—Air-trim type. **List Price... 6.50**

"TIME-SIGNAL" COIL KIT

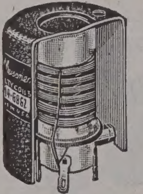
A highly specialized kit, but one for which there is a definite demand among jewelers, watchmakers, manufacturers of automatic timing devices, physics laboratories in schools and universities—wherever there is any need for reception of the standard time signals transmitted by the Government station at Arlington. These transmissions from NAA are on a frequency of 113 kc, unmodulated.

The "Time-Signal" Coil Kit consists of five units including an antenna coupling transformer, antenna coil, R-F coil, combination detector and B-F-O transformer, and a 1.7-kc audio filter. The R-F units are provided with air trimmers and are fully shielded. Complete instructions are included for the construction of a high-quality, 6-tube TRF fixed frequency receiver for 110-volt AC-DC operation.

No. 12-1033—Time-Signal Coil Kit. **List Price.......................................$27.50**

ANTENNA AND R.F. COILS

★ Standard Antenna—RF Coils ★



Standard type air-core coils of superior construction, designed to cover the broadcast band from 545 to 1580 kc (190 to 550 meters) with a 365-mmfd tuning condenser. Excellent for replacement use and are used as original parts by discriminating set-builders and experimenters in the design and construction of broadcast band receivers. All coils have high-impedance primaries, wound with Litz wire, fully protected against humidity. Shields are 1⅞" x 2½".

Unshielded coils are equal in construction and quality to the shielded units. Wound on heavy impregnated forms with sturdy mounting brackets.

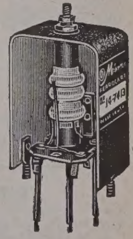
Shielded, No.	Type	Unshielded, No.
14-1004	Antenna Coil	14-1010
14-1005	R-F Coil	14-1011
List Each, $0.99		**List Each, $0.77**

★ Compact Antenna—RF Coils ★

Highly efficient coils designed for use where space is at a premium. Cover the broadcast band, 545 to 1580 kc with a 365-mmfd tuning condenser. Ideal for replacement in midget or auto radio sets as well as for new receiver construction. All have high-impedance primaries with Litz-wire "progressive-universal" secondaries. Windings are on ⅝" diameter forms, 1¾" long, fully impregnated. Black crackle shields are 1½" diameter, 2" high.

Shielded, No.	Type	Unshielded, No.
14-1024	Antenna Coil	14-1022
14-1025	R-F Coil	14-1023
List Each, $0.66		**List Each, $0.50**

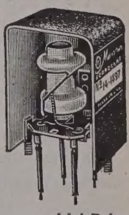
★ Universal-Adjustable Coils ★



These Adjustable-Inductance coils will replace broadcast-band coils in practically any receiver. No longer necessary to order hard-to-get "exact duplicates." Continuously variable in inductance over a wide range, these coils will accurately "track" with other coils in the set when properly adjusted. Exact inductance of the old coil is easily matched by a simple screw-driver adjustment, regardless of the value of the tuning condenser! The oscillator may be used with any I-F from 175 to 520 kc. Shields are 1¾" square by 2½" high. Furnished with complete instructions.

Shielded, No.	Type	Unshielded, No.
14-7413	Antenna Coil	14-1026
14-7558	R-F Coil	14-1027
14-7560	Oscillator Coil	14-1028
List Each, $2.20		**List Each, $1.38**

Iron-Core Antenna—RF Coils



The use of high-quality iron cores adds substantial gain and increases the selectivity of these radio - frequency transformers. Recommended for use in any circuit where highest quality components are required. Cover the broadcast band from 540 to 1600 kc with a 365-mmfd tuning condenser. Mounted in black crackle-finish shields, 1¾" square by 2¼" high. Will perform well with any of the standard types of RF amplifier tubes including battery types

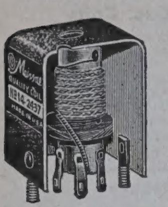
Cat. No.	Type	List Price
14-1496	Hi-imp. Pri. Ant. Coil	$1.95
14-1497	Detector Stage R-F Coil	1.95
14-7860	Interstage R-F Coil	1.95

NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner PRECISION-BUILT PRODUCTS

Meissner Coils—Noise Filters

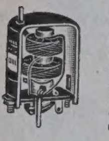
MIDGET ANT. AND R. F. COILS



Entirely new design. Specially built for compact T.R.F. Super-Het and Auto Radio receivers. Wound on ½" bakelite form. Four bank windings with Litz wire. High impedance primaries. Shield cans 1⅜" x 1⅜" x 2". Spade bolt mountings. Cover 190 to 550 meters with 365 mmf. condenser.

No. 14-2436—Antenna Coil
No. 14-2437—R. F. Coil
List Price, Each.....$1.10

WEATHER-AIRCRAFT BAND COILS



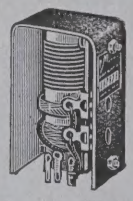
Ultra-compact coils designed to provide highest possible efficiency for reception on the Weather-Aircraft band between 200 and 400 kc. Antenna coil has low-impedance winding for loop or other aircraft antenna in addition to regular high-impedance primary. For use with 365-mmfd condenser; in black crackle shields only 1½" in diameter, 1¾" high.

No. 14-1030—Aircraft Ant. Coil, **List Price $3.00**

No. 14-1031—Aircraft R-F Coil, **List Price 3.00**

No. 14-1032—Aircraft Osc. Coil, **List Price 2.20**

DUAL-BAND COILS



Same as used in MEISSNER Kits; will give utmost in performance and stability. Both bands wound on same bakelite coil-form, ⅞" dia. Two mica-dielectric trimmers mounted in cans of shielded coils. All coils designed to be used with a 365 mmf. variable condenser and for operation with a 456 kc. I-F channel. Wound on bakelite forms 2¾" long. Shielded coils in cans 1¾" x 1¾" x 3". Broadcast-and-Police coils cover 530 to 1550 kc and 1.5 to 4.48 kc. Broadcast-and-Short-Wave coils covers 530 to 1660 kc and 5.8 to 19 mc.

Broadcast and Police			Broadcast and SW	
Shielded	**Unshielded**	Type	**Shielded**	**Unshielded**
14-7467	14-7482	Ant.	14-7467	14-7477
14-7471	14-7483	R-F	14-7478	14-7479
14-7475	14-7484	Osc.	14-7480	14-7481

List Price Each, Any Type, Shielded........$3.00

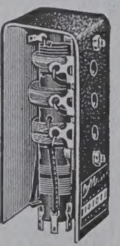
List Price Each, Any Type, Unshielded..... 2.00

No. 22-5204—Padder Kit for BC-Pol., **List $1.40**

No. 22-5203—Padder Kit for BC-SW, **List 1.40**

No. 24-8265—2-position Range Switch, **List 1.65**

TRIPLE-BAND COILS



Similar in design and construction to the shielded 2-band coils above; available in two combinations of frequency ranges: BC-Police and S-W bands and Long-Wave, Broadcast and Short-Wave bands. The BC-Pol-SW coils are for use with a 450-mmfd. tuning condenser and cover 540 to 1770 kc, 1.75 to 5.35 mc and 5.2 to 18.5 mc. LW-BC-SW coils are for use with a 365-mmfd. tuning condenser and cover 136 to 370 kc, 530 to 1580 kc and 5.8 to 18.6 mc. All coils are in black crackle shields with side-adjusted trimmers; for use with 456-kc I-F channel.

BC-Pol.-SW	Type	LW-BC-SW
No. 14-1012	Antenna	No. 14-1015
No. 14-1013	R-F	No. 14-1016
No. 14-1014	Oscillator	No. 14-1017

List Price Each, Any Type................$3.85

No. 22-5201—Padder Kit for BC-Pol-SW, **List $1.40**
No. 22-5202—Padder Kit for LW-BC-SW, **List 1.65**
No. 24-8264—3-position Range Switch, **List 2.20**

★ OSCILLATOR COILS ★

For the Broacast band — 190 to 550 meters. Tune with 365 mmf TRF type condenser. Will operate in all types of oscillator circuits.

Mounted on special bakelite base, with tinned soldering lugs. Unshielded coils mount by means of screw in one end of dowel. Shielded coils are in cans 1½" diameter, 1¾" high, with spade bolt mountings. Proper value padder condensers must be used.

Shielded

No.	Int. Freq.	Padder	List Price
14-4242	175 kc	900 mmf.	$1.05
14-4243	456 kc	350 mmf.	1.05

Unshielded

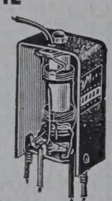
No.	Int. Freq.	Padder	List Price
14-3732	175 kc	900 mmf.	.83
14-6590	262 kc	686 mmf.	.83
14-6592	370 kc	500 mmf.	.83
14-4034	456 kc	350 mmf.	.83
14-1033	Special Unshielded Osc. for 6SA7 456 kc	350 mmf.	.83

★ PHONO-OSCILLATOR COIL ★

Designed for the constructor and experimenter in building either wireless or direct-connected phonograph-oscillator units for record reproduction through the radio receiver. May be incorporated in the receiver or with the record-player. Knob adjustment permits selection of clear frequency in the broadcast band. Coil is in black crackle shield, 1⅜" square by 3½" high. Full instructions.

No. 17-9373—List Price $2.20

PRESELECTOR COIL



Increases the selectivity of any Broadcast receiver not having an R. F. stage — without adding any tubes! Three separate bindings, a primary and two tuned secondaries. Covers regular Broadcast band, 545 to 1580 kc, witht a 365-mmfd. tuning condenser. Rigidly mounted in black-crackle-finished shield, 1¾" square, 3" high.

No. 14-6797—List Price......$2.20

INTERFERENCE FILTERS

DE LUXE DUAL UNIVERSAL WAVE TRAP

Tunes 400-475 to eliminate code signals, etc., entering receiving at intermediate frequency. Also tunes 550 to 1950 kc for interfering signals in Broadcast and low-frequency Police bands. Knob makes adjustment easy. Has Ferrocart (iron core) for greater efficiency.

No. 15-8048
List Price $3.00

Dual Broadcast Model: a two-section trap designed for maximum efficiency on Broadcast band only, 550 to 1950 kc.

No. 15-8478—List Price $3.00

DUAL AMATEUR BAND WAVE TRAP

Eliminates interference simultaneously from either 40 and 80, or 40 and 160 meter bands. Similar in construction to above dual unit, but without knob. Has screwdriver adjustment for both bands. Tunes 1.5 to 7.5 mc.

No. 15-8148—List Price $3.00

STANDARD SINGLE WAVE TRAPS

Each traps designed for a specific frequency coverage; has screwdriver adjustment for easy setting to interfering signal. Air core design.

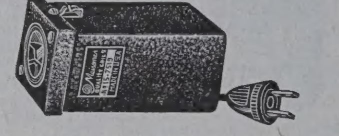
No. 15-8479—For range 400 to 700 kc.
No. 15-8480—For range 650 to 1000 kc.
No. 15-8481—For range 950 to 1600 kc.
No. 15-8485—160 Meter and Police Band.
No. 15-8484—80 Meter Band.
No. 15-8483—40 Meter Band.
No. 15-8482—20 Meter Band.
Any Model—List Price $1.40

456 I.F. WAVE TRAPS

Eliminate I.F. interference caused by code signals, etc.

No. 15-7518—Fully shielded. **List Price.....$1.00**
No. 15-8486—Similar to above, but unshielded.
List Price $0.75

DE LUXE LINE NOISE FILTER



For elimination of electrical interference entering receiver by means of power line. May be connected either to interfering device or to radio. For 110 or 220 volts, AC or DC; 200 watts maximum load. In black crackle case, 2" x 2" x 5".

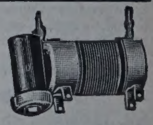
No. 15-7519—List Price $4.50

10-KC AUDIO FILTER

Eliminates the 10-kc squeals and whistles which spoil high-fidelity reproduction of programs. Two tuned filter circuits provide maximum attenuation of the 10-kc audio note. Complete instructions and diagrams. Operates with any of standard power output tubes—current carrying capacity 75 ma. Coils universal wound and fully protected. Accurately pretuned and mounted in black crackle-finished shield, 1¾" square by 2¾" high. Color-coded lead wires, spade lug mountings on shield.

No. 15-7520—List Price $4.00

INDIVIDUAL ALL-WAVE COILS



The same high-grade antenna, R. F. and oscillator coils used in the Multi-Wave coil assemblies. Separately available for use in making up special combinations for any type of receiver. "Align-Aire" trimmer mounted on each coil; long-wave coils are shielded. Oscillators designed for 456-kc I-F.

For Use With 410 MMF Condensers

Frequency Coverage	Antenna Coil No.	R. F. Coil No.	Oscillator Coil No.	List Price	Padding Condenser	List Price
133-406 KC	14-7686	14-7688	14-7680*	$2.00	....	....
537-1754 KC	14-7662	14-7664	14-7682	1.40	22-8037	$0.45
1.68-5.96 MC	14-7644	14-7646	14-7648	1.40	22-8029	.45
5.8-18.2 MC	14-7674	14-7672	14-7670	1.40	†22-5134	.50

For Use With 280 MMF Condensers

Frequency Coverage	Antenna Coil No.	R. F. Coil No.	Oscillator Coil No.	List Price	Padding Condenser	List Price
540-1580 KC	14-7921	14-7920	14-7922	1.40	22-7961	45
1.5-4.5 MC	14-7942	14-7940	14-7938	1.40	22-7733	45
4.1-12.2 MC	14-7990	14-7992	14-7994	1.40	22-7731	.45
7.3-18.8 MC	14-7674	14-7672	14-1021	1.40	†22-4137	.50
11.2-31.6 MC	14-1018	14-1019	14-1020	1.40	†22-4137	.50

*Complete with padding condenser.

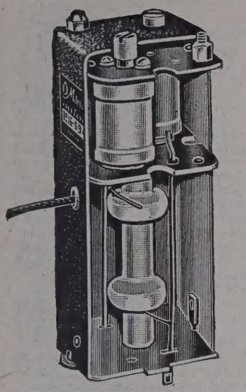
† Fixed mica padding condenser plus or minus 3%.

NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner PRECISION-BUILT PRODUCTS

Meissner I-F Transformers

★ "ALIGN-AIRE" I-F TRANSFORMERS ★

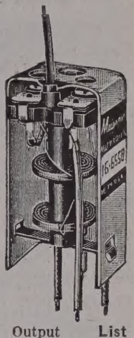


The result of years of engineering experience in designing high grade transformers for the finest commercial receivers! The exacting requirements of modern high-fidelity and communications type receivers demand units that can be depended upon under any and all conditions. They must be absolutely stable under temperature and humidity variation and unaffected by vibration. These requirements are all met by the "Align-Aire" I-F Transformer! Provides 3600 degrees of micrometer smooth trimmer adjustment instead of the usual 180 degree rotation! Accurate trimming can thus be readily accomplished. Available with special "Iron-core design for maximum gain and selectivity. Double-tuned and offered in a complete range of frequencies for any application. Ahield cans are black crackle finish, 2"x2"x4¾".

No.	Frequency Range (kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width 2x	10x	20x	Use
16-6643	415-540	456	77	7.0	16.0	22.0	Input
16-6123	415-540	456	29	7.0	18.0	24.4	Interstage
16-6645	415-540	456	105	9.0	25.6	36.2	Output
16-6139	415-540	456	100	9.5	23.2	33.5	Output C.T

List Price, Each **$5.50**

★ "PLASTIC" I-F TRANSFORMERS ★



New type, one-piece molded plastic coil form and trimmer base makes possible this highly efficient transformer, unusually compact in size! Shield can is only 1¼" square and 2½" high! Especially suitable for midget or portable receivers, their performance is second to none in any type of set. Made in a complete series of frequency ranges and set positions; windings are universal type with special Litz wire, fully protected against the effects of humidity and temperature variation. Double-tuned with mica-dielectric trimmers; RMA color-coded lead wires.

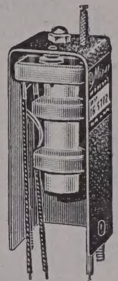
Frequency	Input	Interstage	Output	List
175	**16-6649**	**16-6650**	**16-6651**	
262	**16-6652**	**16-6653**	**16-6654**	**Any**
370	**16-6655**	**16-6656**	**16-6657**	**Type**
456	**16-6658**	**16-6659**	**16-6660**	**$1.10**

High-Gain Iron-Core Plastics

Same size and construction as above but with iron cores to provide high gain and selectivity.

No. 16-6662	456-kc	Input	**Either type,**
No. 16-6663	456-kc	Output	**List, $1.65**

★ "STANDARD" I-F TRANSFORMERS ★

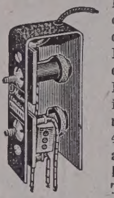


Meissner Air-core I-F Transformers have been accepted as "Standard" for general replacement purposes. Gain characteristics have been designed to correspond closely with average values found in the majority of commercial receivers. Input and output units are high-gain, for use in single-stage amplifiers; inter-stage units have low gain to prevent oscillation in two-stage amplifiers. All transformers are double-tuned, with ceramic-base, mica-dielectric trimmers. Windings of high-grade Litz wire are fully impregnated for protection from humidity. Well insulated, RMA color-coded lead wires. Mounted in "standard" size shield cans, 1⅜" square by 3½" high, finished in black crackle lacquer.

Frequency	Input	Interstage	Output	Output C-T
175	**16-5700**		**16-5702**	**16-3731**
262	**16-5704**		**16-5706**	
456	**16-5712**	**16-6133**	**16-5714**	**16-3736**

Standard I-F Transformers, **List Price, Each** **$1.65**

PERMEABILITY-TUNED I-F TRANSF.

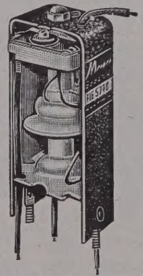


For perfect stability under all conditions; no trimmers; variable iron cores provide inductance adjustment. Fixed "silver mica" shunt condenser on each coil insures against drift. High-gain, low-loss universal windings are thoroughly protected from moisture and humidity. Peaked at 456 kc; shield is black crackle finish and is 1⅜" square by 3½" high.

No.	**16-6646**	**16-6647**	**16-6648**
Type	Input	Interstage	Output

List Price, Any Type, Each..................**$3.30**

★ "FERROCART" I-F TRANSFORMERS ★

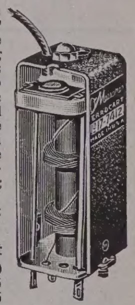


Designed primarily as original parts in high-gain receivers of superior quality, these transformers find consistent application in stepping up the performance of old receivers. Many sets with a single I-F stage can be tremendously improved in sensitivity and selectivity by their use. Special powdered-iron "Ferrocart" cores used in the coils permits higher-"Q", with resultant increase in gain and selectivity! The wide range of frequencies listed provides for a great variation in new receiver designs while also permitting almost universal application for replacement use. All are double-tuned, with ceramic-base, mica-dielectric trimmers; shields are 1⅜" by 3½".

Frequency	Input	Output
175	**16-5728**	**16-5730**
456	**16-5740**	**16-5742**

"Ferrocart" Iron Core I-F Transformers, **List Price, Each**...................**$2.20**

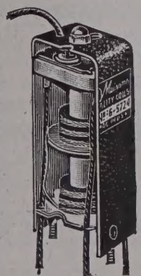
BAND-EXPANDING I-F's



Variable selectivity transformers to enable adjustment of the I-F channel band-width to meet the conditions of the moment! Coupling is variable electrically by means of a two or three position tap switch—no cams or levers. With the two-position units, normal and extra-selective response curves are provided. On the three-position units, an unusually broad response is added for high-fidelity reception. All are 456 kc, double-tuned; mica-trimmed units are 1⅜" square by 3½" high; air-trim: 2" by 4½".

No.	Trimmer	Positions	List
17-7410	Mica	Two	**$3.30**
17-7412	Mica	Three	**3.85**
17-7416	Air	Three	**6.75**

TRIPLE-PIE I-F TRANSFORMERS

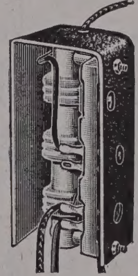


Highly efficient, supergain transformers designed particularly for use in single-stage I-F channels. Not recommended for use in two-stage amplifiers, since excessive gain tends to create instability and troublesome oscillation. These transformers are double-tuned with ceramic-base, mica-dielectric trimmers. Mounted in black crackle-finish shields, 1⅜" square by 3½" high.

Frequency	Input	Output
370	**16-5720**	**16-5722**
456	**16-5724**	**16-5726**

List Price, Each........**$2.00**

TRIPLE-TUNED I-F TRANSFORMERS

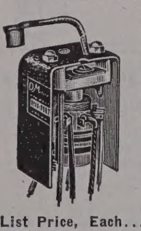


Especially designed for high-fidelity superhets, these transformers provide flat-top resonance characteristics with narrow, steep-sided skirts. Accordingly, they deliver the ultimate in tonal quality since there is no cutting of "sidebands". Triple-pie, universal windings are used to provide high gain. Provided with side-adjusted, ceramic-base trimmers. Shields are 2" square by 5" high.

Cat. No.	Frequency	Type
16-6858	456	Input
16-6860	456	Output

List Price, Each........**$3.30**

COMPOSITE I-F AND OSC.



Combined oscillator coil and input I-F transformer in one shield; for replacement use and new set construction. Designed to cover broadcast band from 190 to 550 meters with a 365-mmfd tuning condenser. Double-tuned with ceramic-base trimmers; shield is 2" x 2" x 3".

No.	Frequency	Padder
17-4031	175	1125-mmfd
17-7537	456	425-mmfd

List Price, Each...........................**$3.30**

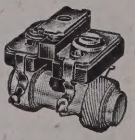
I-F TRANSFORMER REPLACEMENT MANUAL

Meissner
I-F
TRANSFORMER
REPLACEMENT
MANUAL

A necessity to every serviceman! Tells what I-F transformer to use in any superhet! Every super ever made, on which data could be obtained, is listed by manufacturer and model no., original part numbers, original peak frequency AND the no. of the Meissner transformer recommended for replacement! Has 254 pages in handy pocket size; lists 9,891 models!

I-F Transformer Replacement Manual, Net Price........................**$ .25**

★ "CARTWHEEL" I-F ★



Ultra-compact, unshielded I-F's complete with dual trimmers; fine for compact AC-DC or personal receivers! Also very useful as replacements in many sets using odd shapes and locations for their I-F's. Only 1⅜" by 1-1/32" by 1¼"; one-piece plastic trimmer base; for 456 kc only, input or output.

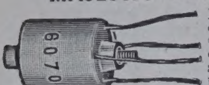
No. 16-6661 "Cartwheel" I-F, **List**..........**$1.10**

NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner PRECISION-BUILT PRODUCTS

Meissner Replacement Coils

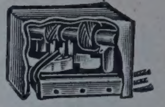
MAJESTIC COILS ONLY



Exact duplicates of original assemblies. Coils only, without cans or trimmers Exactly replace defective burned-out units. Improved units, in cans with trimmers, are listed at right.

Meissner No.	Majestic No.	Use	Model	List Price
20-6070	4428	1st I.F.	15-15B-150	$0.85
20-5310	8384 4429	2nd I.F.	15-15B-150	.90
20-5311	5326	1st I.F.	25	1.10
20-5312	5337	2nd I.F.	25	1.10
20-5317	5606	1st I.F.	55	1.10
20-5315	10589 10078	1st I.F.	66	.80
20-5316	10591 10098	2nd I.F.	66	.80
20-4065	379	Plate Choke	90-90B-100-100B	.85
20-4445	7643	2nd I.F.	114	1.10
20-5318	9355	1st I.F.	116	.95
20-5319	9361	2nd I.F.	116	.95
20-5321	6250	1st I.F.	200	1.10
20-6071	6119	1st I.F.	210	.85
20-5323	6123	2nd I.F.	210	.80
20-6072	6127	3rd I.F.	210	1.10
20-5324	6588	1st I.F.	220	1.10
20-5325	6572	2nd I.F.	220	.90
20-5326	6592	3rd I.F.	35-220	1.10
20-5327	7205	1st I.F.	290-300	1.10
20-5328	7230	2nd I.F.	290-300	1.10
20-5329	7821	1st I.F.	310A-310B-330-390	.95
20-3906	7812	2nd I.F.	310A-310B-330-390	1.10
20-4428	9094	2nd I.F.	360	1.10
20-4075	9229 9668	2nd I.F.	370	1.10
20-4075	9229 9668	2nd I.F.	400	1.10
20-1491	10528 10541	2nd I.F.	440	1.10
20-3500	10148 10149	1st I.F.	460	.80
20-3457	10253 11014	2nd I.F.	460	1.10
★ 20-5331	10843	1st I.F.	500	.90
20-5332	11705	2nd I.F.	600	.95
20-3457	10253	2nd I.F.	800	1.10
20-4204	7187	Primary coil used as R.F. Plate coil in Models 290-300-310-330-460-520 and 800		.80

MAJESTIC EXACT DUPLICATE TRANSFORMERS



Manufactured from the original Majestic blue-prints, but Meissner-improved to eliminate the causes of failure. New construction insures satisfactory long life—mechanically and electrically perfect. Exactly replaces old units—requires practically no adjusting. Leads have original Majestic color-code .

Cat. No.	Application	List
	Chassis No. 15-15B-150 Model 161-153-154-156	
20-2411	1st I.F. and Osc. Transf.	$3.30
20-4051	1st R.F. Coil less Can	1.10
20-4050	2nd R.F. Coil less Can	1.10
	Chassis 20—Model 21-22-23	
20-4052	1st I.F. Transformer	3.30
20-4053	2nd I.F. Transformer	5.50
	Chassis 25—Model 251-253-254	
20-4054	1st I.F. Transformer	1.65
	Chassis 25-B—Model 251B-253B-254B	
20-4057	1st I.F. Transformer	1.65
20-4058	2nd I.F. Transformer	1.65
	Chassis 35—Model 351-353	
20-4435	1st I.F. Transformer	2.50
20-4436	2nd I.F. Transformer	2.20
20-4437	3rd I.F. Transformer	2.20
	Chassis 55—Model 56-57-58	
20-4051	1st R.F. Coil less Can	1.10
20-4050	2nd R.F. Coil less Can	1.10
	Chassis 60 & 160—Model 61-62-163	
20-4372	2nd I.F. Transf. Tapped	3.85
	Model 66	
20-4062	1st I.F. Transformer	2.75
20-4061	Osc. Coil less Can	.85
20-4064	R.F. Choke less Can	.85
	Model 110	
20-4066	Broad Band Transformer	1.65
	Model 114	
20-4444	1st I.F. Transformer	2.20
	Model 118	
20-4061	Osc. Coil less Can	.85
	Model 120-121	
20-4439	1st I.F. Transformer	3.30
20-4440	2nd I.F. Transformer	3.30
	Chassis 120B—Model 123	
20-4363	1st I.F. Transformer	2.20
20-4389	2nd I.F. Transformer	2.20
	Chassis 200—Model 201-203-204	
20-3816	2nd I.F. Transformer	2.20
20-4067	Ant. Coil less Can	1.10
20-4319	Osc. Coil less Can	1.40
20-3958	R.F. Coil less Can	1.65
	Chassis 210—Model 211-214-215	
20-3915	1st I.F. Transformer	$1.95
20-3944	2nd I.F. Transformer	2.20
20-4454	Ant. Coil less Can	.85
	Chassis 220—Model 221-223	
20-4432	1st I.F. Transformer	2.50
20-4433	2nd I.F. Transformer	2.50
	Chassis 290-300 Model 291-293-294-303-304-307	
20-4070	1st I.F. Transformer	2.50
20-4071	2nd I.F. Transformer	2.75
20-4069	Ant. Coil less Can	1.10
	Chassis 320—Model 324	
20-4430	1st I.F. Transformer	2.20
20-4431	2nd I.F. Transformer	2.50
	Chassis 340—Model 344	
20-4429	2nd I.F. Transformer	2.20
20-4427	Ant. Coil, less Can	.85
	Chassis 370—Model 371-373	
20-4074	1st I.F. & Osc. Transf.	2.75
	Chassis 400—Model 411-413	
20-4076	1st I.F. Transformer	3.85
20-4064	R.F. Choke, less Can	.85
	Chassis 440—Model 44-49-194	
20-1492	1st I.F. Transformer	1.65
20-1489	Oscillator Coil, less Can	.80
	Chassis 460—Model 461-463	
	Chassis 520—Model 95	
	Chassis 490—Model 491-493	
20-3499	1st I.F. Transformer	2.20
20-4012	R.F. Coil, less Can	1.10
20-4064	R.F. Choke, less Can	.85
20-4078	Oscillator Coil, less Can	1.10
	Chassis 500 Model 55-59-75-195-560-566	
20-4089	1st I.F. Transformer	2.75
20-4081	2nd I.F. Transformer	2.75
20-4090	3rd I.F. Transformer	3.85
20-1619	Antenna Coil, less Can	1.10
20-4079	Oscillator Coil, Low Freq.	.55
20-4080	Osc. Coil, High Freq.	.55
	Chassis 800—Model 85-86-998	
20-4012	R.F. Coil, less Can	1.10
20-4064	R.F. Choke, less Can	.85

CLARION
Transformers and Coils

A carefully selected list of replacements for popular model Clarion sets. Exact duplicates with the addition of Meissner improvements to eliminate original defects.

No.	Model	Position	List
20-6938	480	Composite	$2.75
20-6936	320	Composite	2.75
20-4284	260	2nd I.F.	2.00
20-4293	300	3rd I.F.	2.75
20-4286	300	1st or 2nd I.F.	2.20
		Coil Sections Only	
20-3478	100	2nd I.F.	1.10
20-6909	140	2nd I.F.	1.10
20-3478	220	2nd I.F.	1.10
20-6309	260	2nd I.F.	1.10
20-3153	320	2nd I.F.	1.10
20-6313	360	1st I.F.	1.10
20-6317	360	2nd I.F.	1.10

RCA — RADIOLA
Replacement I.F. Coils

Exact I.F. replacement coils for R.C.A.—Radiola—G. E.—Westinghouse and Graybar receivers.

No.	R.C.A.	Model	Position	List
20-6301	8567	80-82-86-RAE68	1st I.F.	$1.10
20-6299	8565	80-82-86-RAE68	2nd I.F.	1.10
20-6297	8566	80-82-86-RAE68	3rd I.F.	1.10
20-6289	2991	R4-R5-R5DC-R5X R6-R7-R7A-R7DC R9DC-R9-RE 16-RE16A	1st I.F.	1.10
20-6281	2992	R4-R5-R5DC-R5X-R6-R7-R7A-R7DC-R9DC-R9-RE16-RE16A	2nd I.F.	1.10
20-6273	8342	60-62-64	All I.F.	1.10

BELMONT Composite I.F. and Osc.

Exactly replaces first I.F.-Osc. coil in Belmont C-19, 50-C, 51-C. May also be used in many Sears-Roebuck sets. Complete exact duplicate in shield can.

No. 20-6792—List Price....................$4.40

CROSLEY Untuned I.F. Coil

Exact duplicate for Models 122, 123, 124, 125, 126. Every serviceman should have a supply of these efficient units.

No. 20-4297—List Price....................$1.40

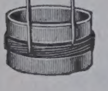
STEWART-WARNER Oscillator Coil

Exact duplicate for the oscillator coil used in Stewart Warner Model M3043. Same physical and electrical characteristics as original.

No. 20-1000—List Price....................$0.85

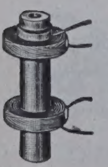
★"SLIP-OVER" REPLACEMENT PRIMARY WINDINGS★

Economically replace burned out primaries on all types of Antenna and R.F. coils, where a new primary winding can be slipped over the secondary. High-impedance type for improved performance. Sizes are outside diameter of coil over which replacement primary will fit.



No.	Size	List
14-6850	For 1¼" O.D. Coil	$0.33
14-6852	For 1" O.D. Coil	.28
14-6854	For ⅞" O.D. Coil	.28
14-6856	For ¾" O.D. Coil	.28
14-8418	For ½" O.D. Coil	.22

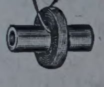
REPLACEMENT I.F. WINDINGS



Designed particularly for replacement use in inexpensive midget receivers. Coils are wound on wood dowels, ⅜" diameter and 1¾" long; coupling is adjustable by sliding primary coil.

STANDARD			CENTER-TAPPED		
No.	**Freq.**	**List**	**No.**	**Freq.**	**List**
16-6600	175	$0.66	16-6602	175	$0.88
16-6601	456	.66	16-6603	456	.88

"DOWEL" TYPE REPLACEMENT WINDINGS



For use in replacing burned out primaries, particularly where the "slip-over" type cannot be used due to mechanical difficulties. Fit inside the coil form. Antenna winding Type A is for use with sets having a regular antenna, Type B is for sets having a short "hank" or A.C.-D.C. type antenna; 3500 uh R.F. winding Type C must be shunted with a 15 or 20 mmf condenser for best performance; 7500 ohm windings require no condenser.

No.	Type	Dimensions	Inductance
★14-6865★	A	½" dia. by ½" long	1700 uh
14-6866	A	⅝" dia. by ¾" long	1700 uh
14-6867	A	¾" dia. by 1" long	1700 uh
14-6868	B	½" dia. by ½" long	2250 uh
14-6869	B	⅝" dia. by ¾" long	2250 uh
14-6870	B	¾" dia. by 1" long	2250 uh
14-6871	C	½" dial by ½" long	3500 uh
14-6872	C	⅝" dia. by ¾" long	7500 uh
14-6873	C	¾" dia. by 1" long	7500 uh

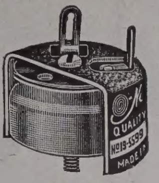
Dowel-Type Replacement Primaries, List Each....................$0.33

NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner PRECISION-BUILT PRODUCTS

Meissner Miscellaneous Parts

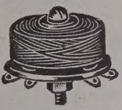
★ AIR-CORE R-F CHOKES ★



Accurately wound and individually tested; coils wound on specially treated forms, mounted on bakelite terminal base and thoroughly moisture proofed. Available in shields or without; both single - hole mounting. Shielded chokes have terminals thru top of can so unit may be mounted on inside wall of chassis. Shields are black crackle finish, 1½″ dia.

MH Induct.	Shielded No.	Shielded List	Unshielded No.	Unshielded List
2.5	19-5582	$0.72	19-1994	$0.50
5.5	19-5584	.72	19-4551	.50
8.0	19-5588	.77	19-2078	.55
10.0	19-1900	.83	19-8770	.61
16.0	19-5590	.88	19-1995	.66
30.0	19-5593	.94	19-2330	.72
60.0	19-5594	1.05	19-3247	.83
80.0	19-5596	1.10	19-2709	.88

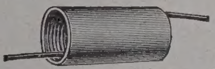
★ IRON-CORE R-F CHOKES ★



Universal-wound on special powdered-iron cores, these chokes provide maximum efficiency—lower DC resistance per MH. Coils are wax-impregnated; laminated bakelite terminal base; single-hole mounting; without shielding.

No.	MH	List	No.	MH	List
19-6834	2.5	$0.77	19-6844	60.0	$1.27
19-6840	10.0	.94	19-6846	80.0	1.43
19-6842	30.0	1.10	19-6848	125.0	1.82

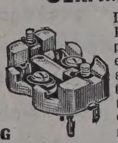
FILAMENT CHOKE



A low-resistance choke wound with No. 14 PE wire designed for use in the low voltage circuits of vibrator power supplies, auto radio sets, etc. Has an inductance of 4 uh, and a resistance of only .012 ohm. Single layer winding enclosed in a cardboard tube ¾″ diameter by 1¾″ long, with wire leads.

No. 19-4215—Filament Choke. **List Price....$0.45**

CERAMIC-BASE TRIMMERS



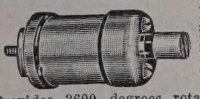
G

Low-loss ceramic base. Hot - tinned alloy plates. Cadmium-slated steel adjusting screw; extra - fine thread. Accurately threaded brass insert. Clear India Ruby mica dielectric.

C — D

No.	Type	Capacity Range	List
22-7002	C	25- 100 mmfd	$0.30
22-7003	C	75- 225 mmfd	.35
22-7004	C	125- 350 mmfd	.40
22-7005	C	175- 500 mmfd	.45
22-7006	C	225- 650 mmfd	.50
22-7007	D	275- 825 mmfd	.75
22-7008	D	325-1000 mmfd	.80
22-7009	D	400-1200 mmfd	.85
22-7010	D	500-1400 mmfd	.90
22-7011	D	600-1600 mmfd	.95
22-7012	D	700-1800 mmfd	1.00
22-5211	G (dual)	200- 600 mmfd	.65

AIR-DIELECTRIC TRIMMERS



Metal-cased air trimmer as used in Align-Aire I-F transformers; absolutely stable under all conditions; dust - proof; moisture-proof. Provides 3600 degrees rotation from minimum to maximum; ceramic insulated; ⅞″ dia. by 1⅜″.

No. 22-5232— 5 to 25 mmfd. **List Price.....$1.00**
No. 22-5240—25 to 50 mmfd. **List Price..... 1.10**
No. 22-5200—40 to 100 mmfd. **List Price..... 1.40**

MIDGET "ALIGN-AIRE"

Similar to above unit but in molded plastic case; only 7/16″ diameter, 1⅜″ long; combination metal end plate and mounting bracket.

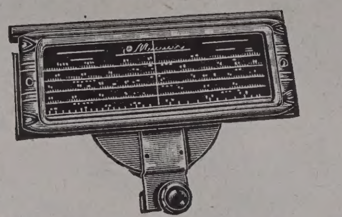
No. 22-5230—1 to 12 mmfd. **List Price......$0.40**

SOCKET PUNCH

Hardened steel. Will cut right-sized hole in sheet metal up to 14 gauge to fit either Steatite or Bakelite Meissner sockets. Cuts clean; 1⅛″ hole; tempered to last.

No. 25-3558—Socket Punch. **List Price.......$5.50**

STANDARD "SLIDE-RULE" DIALS



9-INCH Used on larger Meissner receivers; single-speed vernier mechanism; fits ⅜″ shaft; for right or left-hand closing condenser. 4-band scale calibrated 537-1754 kc, 1.68-5.96 mc, 5.85-18.2 mc and 17.6-42 mc. 5-band scale has 133-406 kc band additional.

Scale	Right-hand	Left-hand	List
4-band	No. 23-8233	No. 23-8232	$7.75
5-band	No. 23-8231	No. 23-8230	7.75

7-INCH Used on Meissner 7-tube receivers; fit ⅜″ shaft; for right- or left-hand closing condensers. Scales calibrated: **A**—530-1660 kc, 0-100; **B**—530-1660 kc, 5.85-18.8 mc, 0-100; **C**—537-1770 kc, 1.75-5.4 mc, 5.2-18.5 mc; **D**—135-370 kc, 530-1580 kc, 5.8-18.5 mc.

Scale	Right-hand	Left-hand	List
Type A	No. 23-8220	No. 23-8207	$6.00
Type B	No. 23-8221	No. 23-8208	6.00
Type C	No. 23-8222	No. 23-8209	6.00
Type D	No. 23-8228	No. 23-8210	6.00

5-INCH Used on Meissner P-A Tuners; similar to above dials except for scale length. Fits ⅜″ condenser shaft; for clock-wise closing condenser only; calibrated for broadcast band, 530 to 1600 kc; furnished with escutcheon.

No. 23-8227—5″ Slide-Rule Dial. **List Price..$5.25**

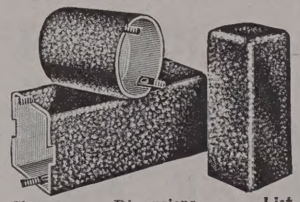
4-INCH ROUND DIAL

Used on Meissner 5-tube set; a handy mechanism for any application. Scale calibrated 0 to 100; fits ¼″ diameter shaft; dependable friction vernier drive; no cables; includes escutcheon.

No. 23-8257—4″ Round Dial. **List Price......$3.30**

SHIELD CANS

Meissner drawn zinc shield cans; black crackle finish. Furnished with spade-bolts for mounting.



No.	Shape	Dimensions	List
25-8271	Square	1⅜″x1⅜″x1¾″	$0.30
25-8273	Square	1⅜″x1⅜″x2⅝″	.35
25-8275	Square	1⅜″x1⅜″x3½″	.40
25-8277	Square	1¾″x1¾″x2½″	.35
25-8279	Square	1¾″x1¾″x3″	.45
25-8281	Square	2″ x2″ x4¾″	.70
25-8270	Round	1½″ dia. x 1″	.20
25-8272	Round	1½″ dia. x 1¾″	.25
25-8274	Round	1⅞″ dia. x 2¼″	.35

COIL CEMENTS

Meissner
25-15045
High Q CEMENT
LIST PRICE $0.50

High "Q" Cement

The finest R-F lacquer obtainable; sticks fast; no loss in "Q" of coil to which it is applied. Maintains highest efficiency at all times; protects against humidity variations.

No. 25-5045—List Price.....$0.55

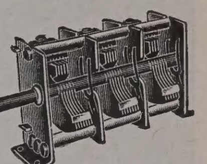
Radio Cement—Best for general coil use; provides greatest tensile strength with minimum loss in "Q"; gives full protection; sets fast.
No. 25-5046—List Price....................$0.45

Collodion—Dries five times as fast as any other Meissner cement; not quite equal in tensile strength or efficiency but best for rapid work.
No. 25-5047—List Price....................$0.35

Thinner No. 1—A universal reducing agent for practically all cements and lacquers; not good for High "Q" Cement; used on all others.
No. 25-5048—List Price....................$0.55

Thinner No. 2—A specially developed thinner for Meissner High "Q" Cement. Not suitable for Radio Cement or Collodion.
No. 25-5049—List Price....................$0.35

STANDARD VARIABLE CONDENSERS

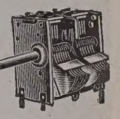


Low-loss precision tuning condensers for any application; improved bakelite insulation; trimmers mounted on top; busbar construction insures rigidity; ⅜″ dia. shaft, 1½″ long; capacity increases clockwise; end plates are 1⅞″x3¼″.

These are standard sized condensers for universal receiver use; sections are spaced 1½″ apart.

Cat. No.	21-5224	21-5221	21-5222	21-5223
Sections	One	Two	Three	Four
List Price	$2.50	$3.50	$4.50	$5.75

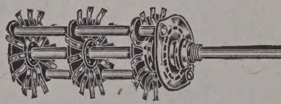
COMPACT VARIABLE CONDENSERS



Where space is an important factor these compact, reliable condensers are ideal. Each section is only 1″ deep; end plates are 1 9/16″ x 2⅜″; rigid, bus-bar construction; bakelite insulation; trimmers on top; ¼″ dia. shaft; capacity increases clockwise.

Capac:	One-Section		Two-Section		Three-Section	
140	......	....	21-5210	$2.65	21-5211	$3.65
365	21-5200	$1.80	21-5214	2.75	21-5215	3.75
410	......	....	21-5216	2.75	21-5217	3.75

ROTARY TAP SWITCHES



Shorting type contacts two adjacent points during rotation; circuit is never open. Non-shorting type opens circuit between each point; contacts only one point at a time. All have adjustable stops; any number of positions may be used. High-grade laminated bakelite insulation; positive silvered contacts. Overall diameter, 1⅞″; mounts in ⅜″ hole; flatted shaft 2″ long, ¼″ diameter. Sections are spaced 1½″ apart; may be shortened by cutting spacers.

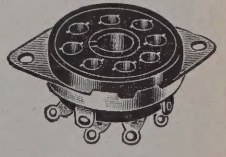
Circuits	Positions	Shorting No.	Shorting List	Non-Shorting No.	Non-Shorting List
One	2 to 12	24-8251	$1.30	24-8252	$1.30
Two	2 to 5	24-8253	1.40	24-8254	1.40
Two	2 to 12	......	...	24-8256	1.95
Four	2 to 5	......	...	24-8258	2.20
Three	2 to 12	24-8259	2.60	24-8260	2.60
Six	2 to 5	24-8261	2.75	24-8262	2.75
Four	Two	24-8263	1.40	......	...

Coil-Shorting Rotary Switches

Designed for use in multi-band receivers; has separate wafers for complete switching of primary and secondary on each coil. Shorts out all lower-frequency coils to reduce absorption. Adjustable stop permits use of limited number of positions. High quality laminated bakelite insulation; positive silvered contacts; overall diameter, 1⅞″; mounts in ⅜″ hole. Flatted shaft is 2″ long, ¼″ in diameter; sections are 1½″ apart; may be shortened by cutting spacers.

No.	Gangs	Circuits	Positions	List
24-9202	2	2	2 to 5	$1.65
24-9204	6	6	2 to 5	3.85
24-9205	8	8	2 to 5	5.00

Molded Bakelite Socket—Octal Base



Has many points of superiority; accurately molded of highest grade bakelite; mounted in cadmium - plated steel saddle; standard 1½″ mounting centers; requires 1⅛″ hole in chassis; has four ground lugs.

No. 25-8209—Bakelite Octal Socket. **List.....$0.12**
No. 25-8438—Carton of Six Sockets. **List..... .70**

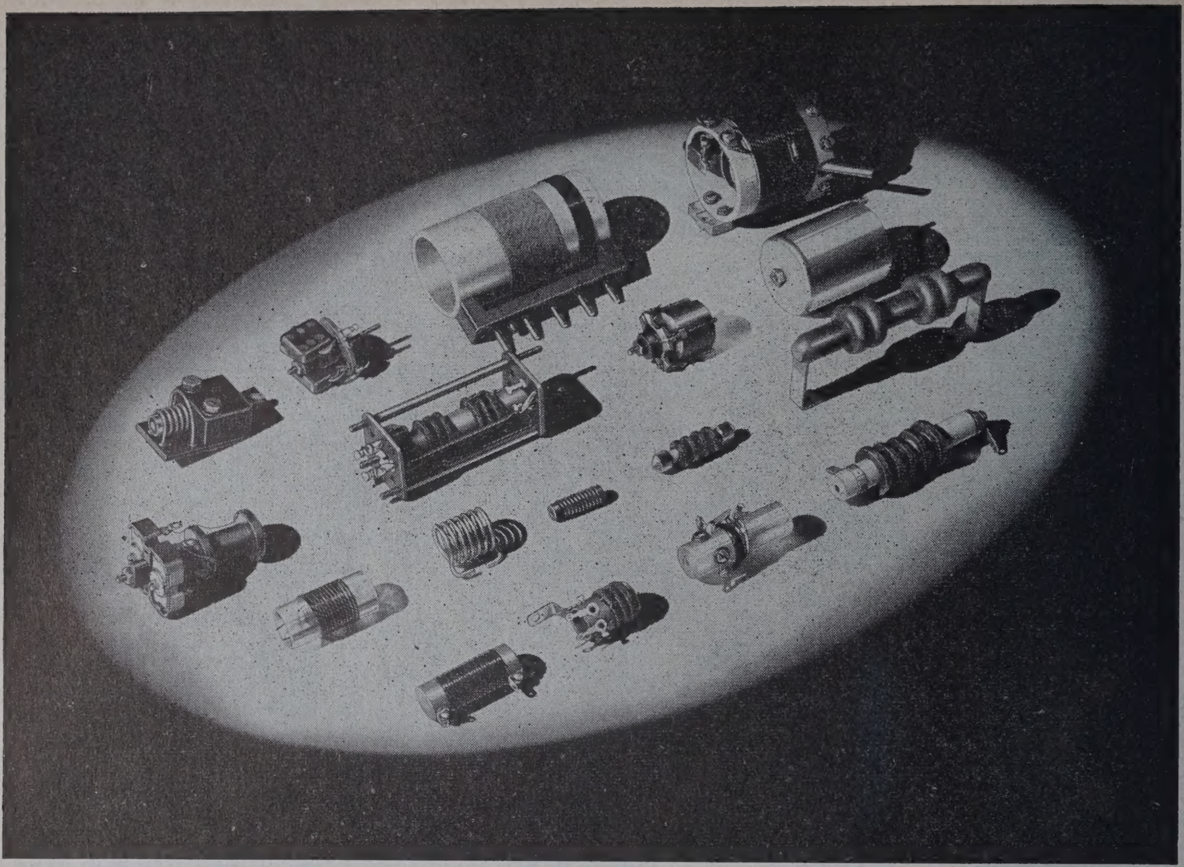
Low-Loss Ceramic Octal Socket

Of same construction as above, this socket is made of highest quality ceramic insulation; low R F losses make it ideal for high-frequency use. Phosphor-bronze contacts can not pull out with tube; standard mounting centers, 1½″.

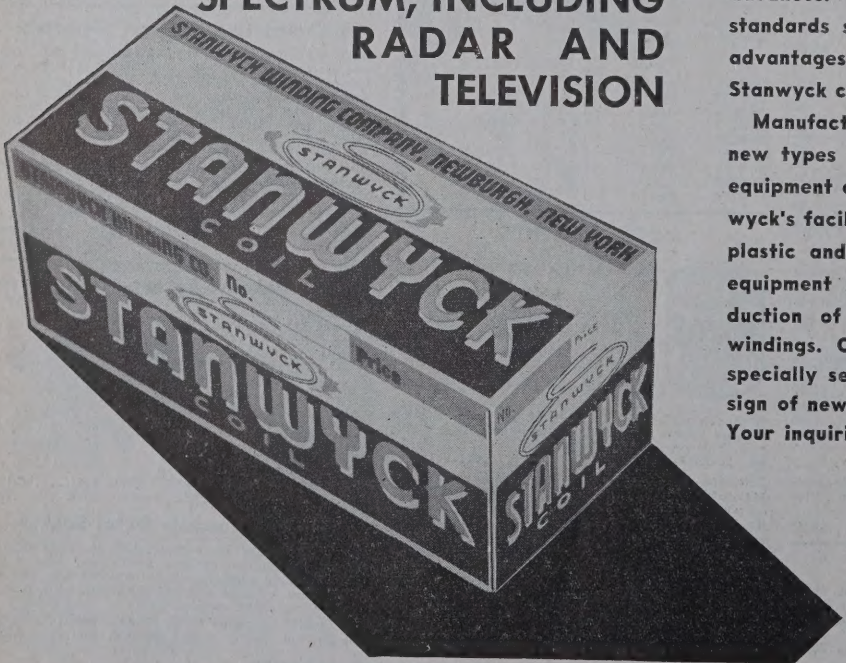
No. 25-8437—Ceramic Octal Socket. **List.....$0.40**
No. 25-8439—Carton of Six Sockets. **List..... 2.25**

NOTE: ONLY STARRED ★ ITEMS ARE AVAILABLE FOR THE DURATION

Meissner PRECISION-BUILT PRODUCTS



COILS FOR EVERY APPLICATION IN THE RADIO FREQUENCY SPECTRUM, INCLUDING RADAR AND TELEVISION


STANWYCK WINDING COMPANY, NEWBURGH, NEW YORK
STANWYCK
STANWYCK COIL
STANWYCK WINDING CO.
No.
Price
STANWYCK
STANWYCK COIL
No.
Price
STANWYCK
STANWYCK COIL

In our distinctive new "postwar" package will be found coils made with expert care and incorporating the latest technical advances. Jobbers who must meet high standards should investigate the singular advantages offered by the wide variety of Stanwyck coils.

Manufacturers and engineers developing new types of radio, radar and television equipment are invited to investigate Stanwyck's facilities for machining all types of plastic and ceramic insulating cores and equipment readily adaptable to the production of all types of universal bank windings. Our engineering department is specially set up to collaborate in the design of new coils for specific applications. Your inquiries will be promptly answered.

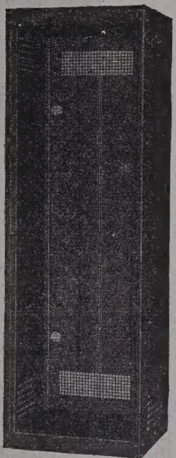
We wil be glad to send you our catalogue and price list when available. Send your name.

STANWYCK WINDING COMPANY, Newburgh, N.Y.

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

TYPE "A" ENCLOSED RELAY RACKS

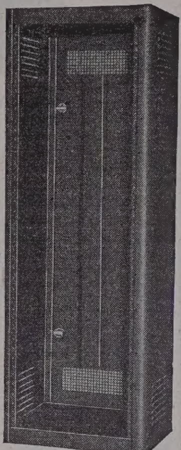
Black Ripple Finish



This completely enclosed rack will give your job the "professional appearance" so desirable on transmitters, P.A. systems, etc. Substantially constructed from 1/16″ cold rolled steel; panel mounting angles are of ⅛″ steel, accurately drilled on universal centers for either type "A" or type "C" panels, tapped for 10/32 machine screws. Panels fit into a recess, so that edges are not exposed. Louvres in sides and screen sections in rear door provide ample ventilation. Rear door is hung on sturdy loose-joint hinges, and closed by a flush snap catch. Shipped "knocked-down" with all necessary bolts for easy assembly. Ample supply of panel mounting screws and washers supplied.

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER203	42 x21x16½″	36¾″	75	$21.30
ER205	66½x21x16½″	61¼″	135	28.50
ER207	82¼x21x16½″	77″	165	35.40

Slate Grey Ripple Finish

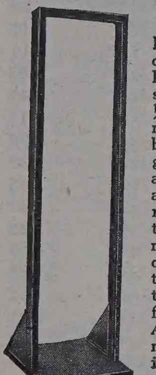


The ideal **streamlined** rack for your next transmitter or P.A. system. The vertical corners at front are rounded. Uniform slate grey ripple finish gives assembly an attractive exterior appearance. Substantially fabricated from 1/16″ cold rolled steel; the panel mounting angles are of ⅛″ steel, accurately drilled on universal centers for either type "A" or type "C" panels, tapped for 10/32 machine screws. Panels fit into a recess, so that the edges are not exposed. Louvres in the sides and screen sections in the rear door provide ample ventilation. Rear door is hung on sturdy loose-joint hinges, and closed by a flush snap catch. Shipped "knocked-down" with all necessary bolts for easy assembly.

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
R-213	42 x22x16½″	36¾″	100	$24.90
R-215	66½x22x16½″	61¼″	150	32.70
R-217	82¼x22x16½″	77″	175	39.60

TYPE "A" CHANNEL RELAY RACKS

Black Ripple Finish

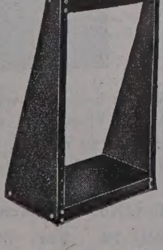


Ideal for use on all types of transmitters and public address systems. Substantially constructed of ⅛″ pressed steel. Vertical members and top cross-brace securely welded together. Base is 22″ deep and extends both front and rear on the RR-195 rack; it is 19″ deep on the RR-193 rack. Panel mounting holes accurately drilled on universal centers for either "A" or type "C" panels, tapped for 10/32 machine screws. Ample supply of panel mounting screws and finishing washers supplied.

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
RR-195	73¼x20x22″	71¾″	85	$12.90
RR-193	38¼x20x19″	36¾″	57	10.50

Note: Panels to fit these racks are listed on page H-100.

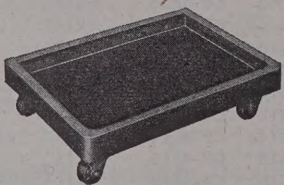
TABLE TYPE



For table mounting Useful where a regular floor type heavy duty rack is not required. Base constructed of one piece, similiar to a chassis. Mounting holes accurately drilled on universal centers, tapped for 10/32 screws. Finished in black ripple enamel and shipped "knocked-down" with all necessary screws. Shipping weight of rack is 20 pounds.

Cat. No.	Overall Size	Panel Space	Net Price
TR-2520	25x21x12″	21x19″	$4.05
TR-3220	32x21x12″	28x19″	5.25

ROLLER TRUCKS FOR RACKS



STANDARD TYPE

These roller trucks are substantially made from steel with welded corners. The overall size is about 3″ wider than the racks, to provide a better distribution of weight. Castors have ball-bearing swivels, with steel wheels. Finish is black ripple enamel.

Cat. No.	Inside Clearance	Wheels	Net Price
RT-400	10½x15″	2″ Steel	$4.05
T-401	21¼x17″	2″ Steel	5.10

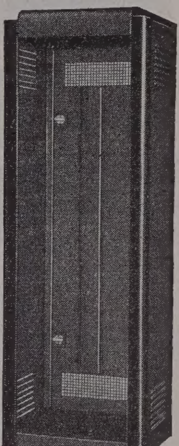
DELUXE TYPE

These trucks are especially designed for use on our deluxe streamlined racks, and have rounded corners at the front. Overall size is about 3″ wider than the racks for better distribution of weight. Castors are ball-bearing swivel type with steel wheels. Finished in slate grey ripple enamel.

Cat. No.	Inside Clearance	Wheels	Net Price
T-410	21¼x15½″	2″ Steel	$3.60
T-411	22⅝x17¼″	2″ Steel	5.40
T-412	22⅝x18¾″	2″ Steel	6.60
T-415	23⅝x16″	2″ Steel	6.60

TYPE "A" TRANSMITTER RACKS

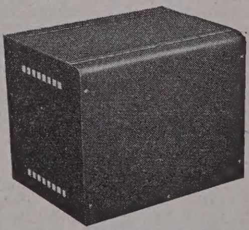
Slate Grey Ripple Finish



Produced in the new **streamlined** style, in keeping with modern design. The removable vertical corner mouldings are rounded and cover the panel mounting screws, same as on our type "C" commercial racks (see page H-99). The top, which has also been "streamlined," is perforated at the back to provide additional ventilation. Rack is substantially fabricated from 1/16″ cold rolled steel; panel mounting angles are of ⅛″ steel, accurately drilled on universal centers for either type "A" or type "C" panels, tapped for 10/32 machine screws. Louvres in side and screen sections in rear door provide ample ventilation. Rear door is hung on sturdy loose-joint hinges, and closed by a flush snap catch. Shipped "knocked-down" with all necessary bolts for easy assembly.

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
R-223	43¼x22x18″	36¾″	105	$30.60
R-225	67¾x22x18″	61¼″	160	39.60
R-227	83½x22x18″	77″	185	47.10

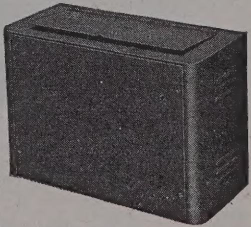
HINGED STEEL CABINETS



Excellent for housing monitors, oscillators, etc. Full piano hinged doors, front panels removable. Modern grille type ventilation at sides and back; top corner at front is rounded to give attractive appearance. Finished in black ripple enamel. Prices do not include chassis bases.

Cat. No.	H. L. D.	For Chassis	Net Price
CA-100	7¼x10½x 6″	5½x 9½x1½″	$1.80
CA-101	7¼x 8 x 8″	7 x 7 x2″	1.80
CA-102	7¼x10 x 8″	7 x 9 x2″	2.10
CA-103	7¼x14 x 8″	7 x13 x2″	2.31
CA-104	9 x15 x10¾″	10 x14 x3″	3.60
CA-105	12 x18 x12″	10 x17 x3″	4.20

DELUXE TYPE



Front vertical corners are streamlined, and a panel type door is provided, hung on a full length piano hinge. Ventilating louvres at sides. Opening at rear allows for necessary leads, cables, etc. Finished in slate grey ripple enamel. Prices do not include chassis.

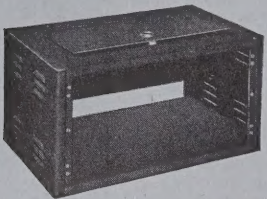
Cat. No.	H. L. D.	Panel Size	For Chassis	Net Price
CA-200	8x10x 8″	8x 8″	7x 7x2″	$2.25
CA-201	8x12x 8″	8x10″	7x 9x2″	2.40
CA-202	8x16x 8″	8x14″	7x13x2″	3.06
CA-203	9x17x11″	9x15″	10x14x3″	4.80
CA-204	12x20x12″	12x18″	10x17x3″	5.70

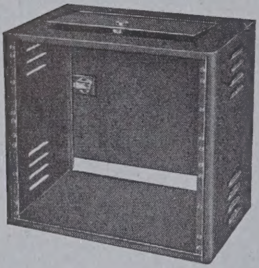
PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

DELUXE TYPE "A" DESK PANEL CABINET RACKS

For Standard 19″ Rack Panels

Black Ripple Finish



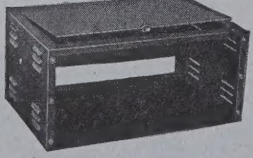


Streamlined styling. In keeping with our other Deluxe racks, the vertical front corners are rounded. Panels fit into a recess, so that the edges are not exposed. Panel mounting holes accurately drilled on universal centers, for either type "A" or type "C" panels; holes are tapped for 10/32 machine screws. May be used with any chassis up to 13″ x 17″ in size. All cabinets rigidly constructed of 1/16″ thick cold rolled sheet steel, with all joints electrically welded. Louvres provide ample ventilation through sides and back. Piano type hinges are used on the top doors, which are provided with flush snap catches. Panel mounting screws and washers are furnished.

Cat. No.	Overall Size	Panel Space	Net Price
	With door in top only		
D-128	10½x21½x15″ deep	8¾″	$6.99
D-1225	14 x21½x15″ deep	12¼″	8.64
D-1413	15¾x21½x15″ deep	14″	9.84
	With door in top and door on rear panel		
D-1713	19¼x21½x15″ deep	17½″	11.88
D-2613	28 x21½x15″ deep	26¼″	13.38
D-3513	36¾x21½x15″ deep	35″	15.33

STANDARD TYPE

Black Ripple Finish

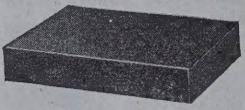


Same as above, but with square corners. Ideal for small transmitters, P.A. amplifiers, oscillators, test equipment, and similar apparatus.

Cat. No.	Overall Size	Panel Space	Net Price
	With door in top only		
SC-128	8¾x19x14¾″ deep	8¾″	$5.19
SC-1225	12¼x19x14¾″ deep	12¼″	6.45
	With door in top and door on rear panel		
SC-1713	17½x19x14¾″ deep	17½″	9.60
SC-2613	26¼x19x14¾″ deep	26¼″	10.50
SC-3513	35 x19x14¾″ deep	35″	12.30

Note: Panels to fit all of above racks are listed on page H-78.

BLANK STEEL CHASSIS BASES



Black Ripple Finish

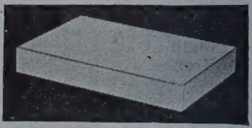
HEAVY DUTY TYPE

All of the chassis listed on this page may be used with the various Par-Metal racks and cabinets. Substantially constructed for "heavy duty" uses, being formed from one piece of 1/16″ sheet steel, with all corners and bottoms reinforced. Bottom covers and mounting screws supplied. Ends drilled to fit standard brackets listed below. Finished in either uniform black ripple enamel or plated.

Black Ripple Cat. No.	Zinc Plated Cat. No.	Dimensions W.L.D.	Net Price
15280	15208	8x17x2″	$1.74
15281	15209	8x17x3″	1.95
15282	15218	11x17x2″	1.95
15210	15219	11x17x3″	2.10
15212	15214	13x17x2″	2.28
15213	15215	13x17x3″	2.49
15216	15217	13x17x4″	2.76

BOTTOM PLATES

Black Ripple Cat. No.	Zinc Plated Cat. No.	Size	Net Price
BP-4500	CP-4500	5½x9½″	$0.30
BP-4508	CP-4508	5x10″	.30
BP-4509	CP-4509	6x14″	.39
BP-4510	CP-4510	7x 7″	.33
BP-4511	CP-4511	7x 9″	.36
BP-4512	CP-4512	7x11″	.42
BP-4513	CP-4513	7x13″	.45
BP-4514	CP-4514	7x15″	.48
BP-4518	CP-4518	4x17″	.39
BP-4515	CP-4515	7x17″	.51
BP-4531	CP-4531	8x17″	.51
BP-4525	CP-4525	10x12″	.51
BP-4524	CP-4524	10x14″	.54
BP-4528	CP-4528	10x17″	.66
BP-4527	CP-4527	10x23″	.87
BP-4533	CP-4533	11x17″	.60
BP-4516	CP-4516	12x17″	.72
BP-4535	CP-4535	13x17″	.75



ZINC PLATED

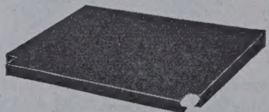
STANDARD TYPE

Construction is the same as our heavy-duty chassis. Stamped from one piece of cold rolled steel, and have four solid sides with welded corners. Bottom edges are flanged in on four sides to provide additional reinforcement, and they are drilled for bottom plates. The chassis are made from #20 gauge steel, except those marked (*) which are stamped from 1/16″ steel exactly like our heavy-duty type. Bottom plates have holes to match the chassis, and have pressed "bumpers" at the corners. Both chassis and bottom plates may be obtained in either a uniform black ripple finish, or plated.

Black Ripple Cat. No.	Cadmium Plated Cat. No.	Size	Net Price
B-4500	C-4500	5½x9½x1½″	$0.48
B-4508	C-4508	5x10x3″	.66
B-4509	C-4509	6x14x3″	.78
B-4510	C-4510	7x 7x2″	.57
B-4511	C-4511	7x 9x2″	.66
B-4512	C-4512	7x11x2″	.72
B-4513	C-4513	7x13x2″	.78
B-4514	C-4514	7x15x3″	.99
B-4518	C-4518	4x17x3″	.81
B-4515	C-4515	7x17x3″	.96
B-4531	C-4531	8x17x2″	1.05
B-4532	C-4532	8x17x3″	1.11
B-4525	C-4525	10x12x3″	1.05
B-4524	C-4524	10x14x3″	1.11
B-4528	C-4528	10x17x2″	1.11
B-4526	C-4526	10x17x3″	.99
B-4527	C-4527	10x23x3″	1.32
B-4533*	C-4533*	11x17x2″	1.35
B-4534*	C-4534*	11x17x3″	1.47
B-4516	C-4516	12x17x2″	1.23
B-4517	C-4517	12x17x3″	1.32
B-4530	C-4530	12x17x4″	1.44
B-4535*	C-4535*	13x17x2″	1.62
B-4536*	C-4536*	13x17x3″	1.83
B-4537*	C-4537*	13x17x4″	2.07

* Made from 1/16″ thick steel.

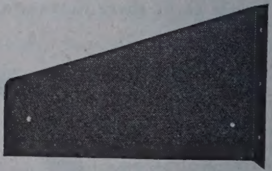
SHELVES FOR CABINET RACKS



These shelves are designed to fit into the various enclosed racks listed in this catalog. They are constructed to be mounted inside the rack, with side bolt mounting. All shelves are 1″ high and finished in black ripple enamel. Shipping wt. 15 lbs.

Cat. No.	Will Fit Rack No.	Net Price
ER-2012	ER-203, 205, 207; D-128, 1225, 1413, 1713, 2613, 3513	$1.89
ER-2112	R-213, 215, 217	2.37
ER-2212	R-223, 225, 227	2.37
R-2015	R & P-3675, 6625, 8325	3.30
R-2018	R & P-3618, 6618, 8318	3.45

CHASSIS MOUNTING BRACKETS

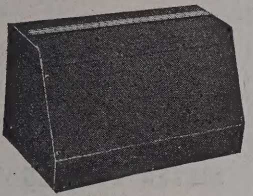


These brackets will fit any of the chassis listed above, as the mounting holes are drilled to match. Panels must be at least 7″ high. Finished in black ripple enamel.

Cat. No.	Dimensions	Shpg. Wt.	Net Price
SB- 78	For 8″ Base	2 lbs.	$0.57
SB-710	For 10″ Base	2 lbs.	.78
SB-711	For 11″ Base	3 lbs.	.84
SB-713	For 13″ Base	3 lbs.	1.02

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

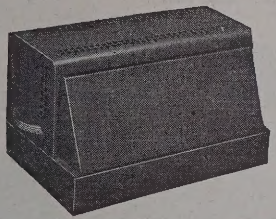
SLOPING FRONT CABINETS



May be readily adapted as instrument cases for use in studios, laboratories, etc. Top corner is rounded, which when combined with the slate grey ripple finish makes a very attractive case. A chassis may be mounted to front panel and removed as a unit. Rear of case is adequately ventilated, with an opening for necessary connections. Prices do not include chassis.

Cat. No.	H.W.D.	Size of Chassis	Net Price
F-500	8x 8x 8"	7x 7x2"	**$2.19**
F-501	8x10x 8"	7x 9x2"	**2.34**
F-502	8x14x 8"	7x13x2"	**2.64**
F-503	9x18x 8"	7x17x3"	**3.81**
F-504	12x18x12"	10x17x3"	**4.71**

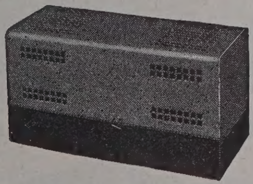
DELUXE SLOPING FRONT
Amplifier Foundation Chassis



Latest trend in amplifier design. Combination of sloping front panel and streamlined cover enables you to build up a job similar to that used on commercial deluxe type amplifiers. All parts finished in slate grey ripple enamel. Front panel removable and protrudes 3" from face of screen cover. Chassis supplied complete WITH bottom plates.

Cat. No.	Chassis Size	Screen Cover	Net Price
10120	10x12x3"	6½" high	**$4.11**
10170	10x17x3"	6½" high	**4.86**
13170	13x17x3"	6½" high	**5.46**

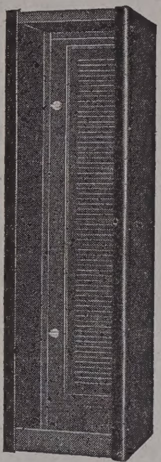
STANDARD
Amplifier Foundation Chassis



Rounded corners effectively streamline the covers on these units. Grille type ventilation gives them a modern appearance. Chassis stamped from one piece of cold rolled steel, with corners securely spot welded. Covers finished in slate grey, chassis in black ripple enamel. Chassis are drilled for bottom plates. Handles can be mounted at both ends of the cover at an addition of 42c net.

Cat. No.	Size	Depth of Cover	Shpg. Wt.	Net Price
F-510	5x10x3"	6"	9 lbs.	**$1.65**
F-615	6x14x3"	6"	10 lbs.	**1.92**
F-717	7x17x3"	6"	11 lbs.	**2.40**
F-1012	10x12x3"	6"	11 lbs.	**2.40**
F-1017	10x17x3"	6"	13 lbs.	**2.91**
F-1317	13x17x3"	6"	15 lbs.	**3.36**

TYPE "C" TRANSMITTER RACKS



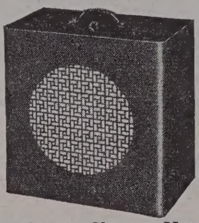
Similar to standard type "C" racks listed at right except that they have been reinforced at rear corners for use with heavier apparatus. At the rear, knockouts are provided for conduit and 4" square duct, as well as a double convenience outlet with receptacle. Knockouts are also supplied at sides for conduit, suitable for entry of cables when units are ganged. The rear door, which is removable, has ample louvres for ventilation, and is covered on the inside with mesh screening. Front trim rounded on vertical corners. Racks are regularly supplied with corner trim for use as a single unit, but will be furnished with suitable front connecting strips for ganging in rows of two or more without additional charge.

FINISH: Black ripple enamel with dull black corner trim as standard. Slate grey ripple enamel furnished without additional charge, if so specified. For grey lacquer finish, add 8% to prices.

PANELS: Type "C" panels to fit the G-2218 and G-2219 racks are listed on page H-100. For cost of 30" panels to fit the G-3024 rack, add 100% to prices of 19" panels on page H-78.

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
		19" Panels		
G-2218	76⅛x22x18"	70"	270	**$73.95**
G-2219	83⅛x22x18"	77"	290	**82.95**
		30" Panels		
G-3024	76⅛x33x24"	70"	450	**127.95**

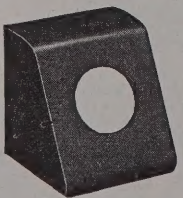
Standard Speaker Cabinets



These cabinets are given a streamline appearance by rounded front corners. They are substantially made from sheet steel, with a louvred back cover. Keyhole slots are provided in back cover for wall hanging. Finished in black ripple enamel.

Cat. No.	Hole Size	Spkr. Size	Cabinet Size (")	Shpg. Wt.	Net Price
C- 996	4¾"	6"	10x10x6	8 lbs.	**$2.40**
C-1170	6½"	8"	12x12x7	9 lbs.	**3.00**
C-1380	9"	10"	14x14x8	15 lbs.	**3.87**
C-1580	11"	12"	16x16x8	20 lbs.	**5.10**

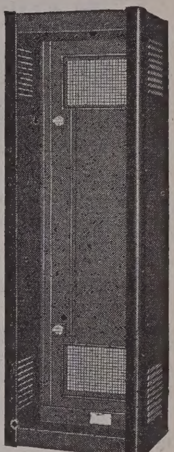
STEEL METER CASES



These meter cases may be obtained for 2" and 3" meters. Substantially made from steel, with welded joints, and finished in black ripple enamel. Top front corner is rounded to harmonize with "streamlined equipment." Size is 4½" x 4" x 4".

Cat. No.	Meters	Meter Hole	Net Price
SM-12	Single 2"	2¼"	**$0.81**
SM-13	Single 3"	2$\frac{13}{16}$"	**.81**

TYPE "C" CABINET RACKS
With Louvres

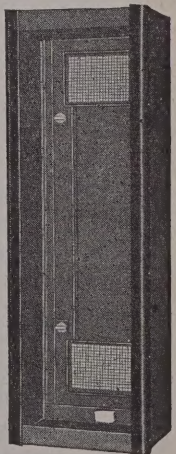


Professional type racks used on many commercial installations. All-steel construction, welded into an integral unit, to give a lifetime of service. Panel mounting screws concealed by means of full length corner trim on each side at front, rounded on vertical corners. Rear corners finished with regular angle trim. Door has grille at top and bottom, and is hung on sturdy loose - joint hinges; it is held closed by two flush snap-action catches. Additional ventilation provided by louvres at sides Panel mounting angle irons are $\frac{3}{16}$" thick, with mounting holes accurately drilled and tapped 12/24 thread on multiple 1¼"—½" spacings. Rack is made from $\frac{1}{16}$" thick cold rolled steel, rigidly braced and reinforced throughout; bottom is $\frac{7}{64}$" thick steel. Rectangular opening in bottom for conduits, leads, etc. Opening in back under door for installation of duplex outlet if required.

FINISH: BLACK RIPPLE; if slate grey ripple is desired, substitute letters "RG" instead of "R", when ordering.

Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
		15¼" Deep Racks		
R-3675	42⅞x22x15¼"	36¾"	150	**$40.50**
R-6625	67⅜x22x15¼"	61¼"	210	**52.50**
R-8325	83⅛x22x15¼"	77"	240	**70.50**
		18" Deep Racks		
R-3618	42⅞x22x18"	36¾"	160	**45.00**
R-6618	67⅜x22x18"	61¼"	230	**58.50**
R-8318	83⅛x22x18"	77"	280	**76.50**

Without Louvres



Same design and construction as above. To permit racks to be set up in gangs or rows of two or more, the louvres at sides are omitted Racks may be joined by a flat trim fastened to front of adjacent support angles, overlapping both racks. Knockout holes 1⅛" are provided at sides to permit connections. Shipped with corner trim as illustrated; where specified, front joining without additional charge in place of corner trim.

FINISH: BLACK RIPPLE; if slate grey ripple is desired, substitute letters "PG" instead of "P", when ordering.

Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
		15¼" Deep Racks		
P-3675	42⅞x22x15¼"	36¾"	150	**$40.50**
P-6625	67⅜x22x15¼"	61¼"	210	**52.50**
P-8325	83⅛x22x15¼"	77"	240	**70.50**
		18" Deep Racks		
P-3618	42⅞x22x18"	36¾"	160	**45.00**
P-6618	67⅜x22x18"	61¼"	230	**58.50**
P-8318	83⅛x22x18"	77"	270	**76.50**

Type "C" Panels are listed on page H-78.

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

TYPE "C" STEEL RACK PANELS — 19" WIDE

For Racks with Multiple 1¼" - ½" Spacings

These panels are made from ⅛" thick steel and are uniformly slotted to fit type "C" cabinet racks shown on page H-77 and all type "A" racks. They will also fit any other rack equipment having multiple 1¼x½" spacings or what is commonly termed as "W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel.

BLANK PANELS

These panels are made from ⅛" thick steel and are uniformly slotted to fit type "C" cabinet racks shown on page H-77 and all type "A" racks. They will also fit any other rack equipment having multiple 1¼x½" spacings or what is commonly termed as "W.E. spacing." There are twelve standard sizes available to fill almost every requirement. They may be obtained in either black ripple enamel, slate grey ripple enamel, or grey lacquer as specified below.

Black Ripple Finish

Cat. No.	Width	Shpg. Wt.	Net Price
6600	1¾"	2 lbs.	$0.48
6601	3½"	5 lbs.	0.54
6602	5¼"	7 lbs.	0.69
6603	7"	8 lbs.	0.75
6604	8¾"	9 lbs.	0.90
6605	10½"	10 lbs.	1.11
6606	12¼"	12 lbs.	1.32
6607	14"	13 lbs.	1.50
6608	15¾"	14 lbs.	1.68
6609	17½"	15 lbs.	1.89
6610	19¼"	16 lbs.	2.01
6611	21"	17 lbs.	2.28

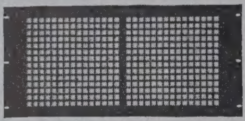
Slate Grey Ripple Finish

Cat. No.	Width	Shpg. Wt.	Net Price
G-6600	1¾"	2 lbs.	$0.48
G-6601	3½"	5 lbs.	0.54
G-6602	5¼"	7 lbs.	0.69
G-6603	7"	8 lbs.	0.75
G-6604	8¾"	9 lbs.	0.90
G-6605	10½"	10 lbs.	1.11
G-6606	12¼"	12 lbs.	1.32
G-6607	14"	13 lbs.	1.50
G-6608	15¾"	14 lbs.	1.68
G-6609	17½"	15 lbs.	1.89
G-6610	19¼"	16 lbs.	2.01
G-6611	21"	17 lbs.	2.28

Grey Lacquer Finish

Cat. No.	Width	Shpg. Wt.	Net Price
6630	1¾"	2 lbs.	$0.72
6631	3½"	5 lbs.	0.78
6632	5¼"	7 lbs.	0.87
6633	7"	8 lbs.	0.99
6634	8¾"	9 lbs.	1.26
6635	10½"	10 lbs.	1.47
6636	12¼"	12 lbs.	1.77
6637	14"	13 lbs.	1.98
6638	15¾"	14 lbs.	2.16
6639	17½"	15 lbs.	2.40
6640	19¼"	16 lbs.	2.70
6641	21"	17 lbs.	3.00

GRILLE PANELS

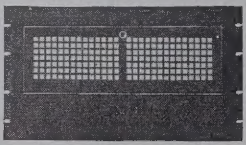


This modern type ventilating grille panel is stamped into the panel itself; it is not a pieced assembly.

Catalog Black	Number Grey	Panel Size	Grille Size	Net Price
P-661	G-661	5¼"	3⅜x14⅜"	$1.95
P-662	G-662	7"	4⅞x14⅜"	2.10
P-663	G-663	8¾"	6⅞x14⅜"	2.55
P-664	G-664	8¾"	*3⅞x14⅜"	2.25
P-665	G-665	10½"	8⅜x14⅜"	2.70
P-666	G-666	10½"	*5⅞x14⅜"	2.40
P-667	G-667	12¼"	*7⅜x14⅜"	2.91

*Allows 3½" space at bottom for chassis mounting.

GRILLE DOOR PANELS



These panels have flush hinged doors with modern type ventilating grille. Doors are equipped with piano hinges, chrome knob and concealed snap catch. All doors start 1" from top to allow space for chassis at bottom. Regular chassis brackets may be used if desired.

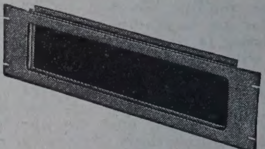
Catalog Black	Number Grey	Panel Size	Door Size	Net Price
P-680	G-680	8¾"	4½x15⅜"	$3.45
P-681	G-681	10½"	6 x15⅜"	3.75
P-682	G-682	12¼"	7½x15⅜"	4.20

SOLID DOOR PANELS

These panels have flush hinged doors with full length piano hinges; they are equipped with a chrome knob and concealed snap catch. All doors are located 1" from top to allow space for chassis at bottom. Regular chassis brackets may be used if desired.

Catalog Black	Number Grey	Panel Size	Door Size	Net Price
P-670	G-670	8¾"	4½x15⅜"	$2.34
P-671	G-671	10½"	6 x15⅜"	2.58
P-672	G-672	12¼"	7½x15⅜"	3.00

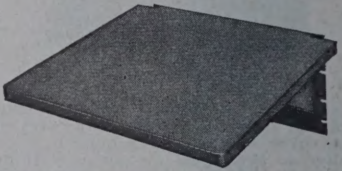
METER PANELS



These panels are made so that the meters may be recessed from the front of the panel. Meters are protected by a plate glass insert, allowing ¾" clearance in back of panel. A blank bakelite sub-panel is provided. The clear sub-panel space is 4⅛"x15" on the 19" wide panel which is sufficient for 4-3" meters. On the 24" and 30" wide panel the clear sub-panel space is 5¾"x20" and 5¾"x26" respectively.

Cat. No. Black	Cat. No. Grey	Size	Net Price
P-690	G-690	5¼x19"	$3.90
P-691	G-691	7 x24"	6.60
P-692	G-692	7 x30"	9.00

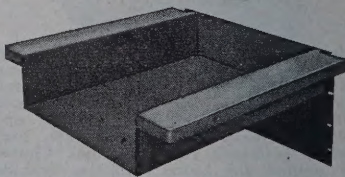
STANDARD DESK PANELS



These standard tables are rigidly made of 1/16" thick furniture steel. The rounded front corners are of seamless construction and the flanges of the shelf are folded in to provide smooth edges underneath. They are securely mounted to regular ⅛" steel panels, size 10½"x19". They may be obtained in two sizes and finishes as listed below. The tables are 22" wide to give full working space across the front of the racks when mounted in place. Shipping weight is 35 lbs.

Cat. No.	Width	Depth	Finish	Net Price
BT-2220	22"	20"	Black enamel	$9.90
BT-2216	22"	16"	Black enamel	9.30
AT-2220	22"	20"	Grey lacquer	10.50
AT-2216	22"	16"	Grey lacquer	9.90

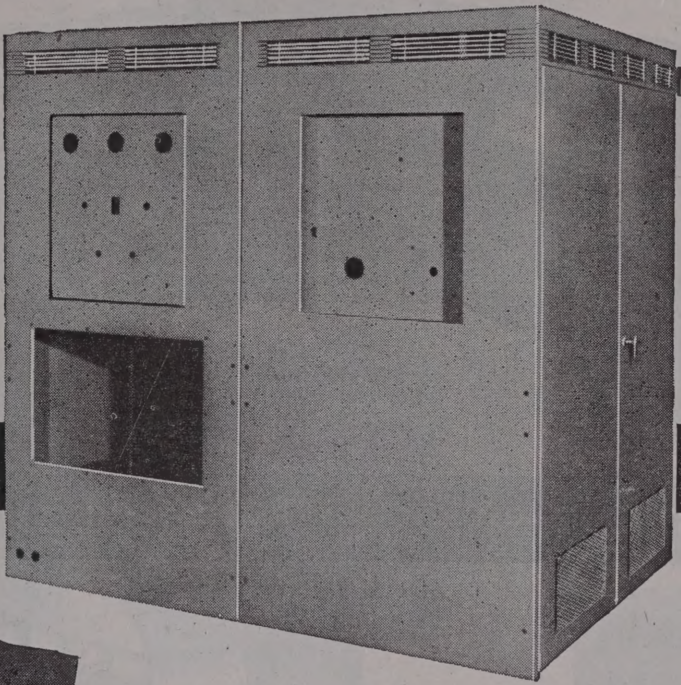
TYPEWRITER DESK PANELS



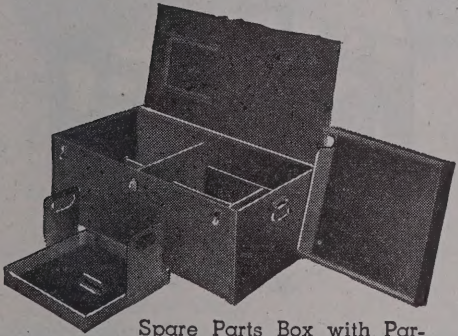
These tables are similar in construction to standard desk type except that a recess 4½" deep is provided for using a standard typewriter. They are securely mounted on regular ⅛" steel panels, 10½"x19", and are 22" wide to give full working space across the front of the rack. Shipping weight is 40 lbs.

Cat. No.	Width	Depth	Finish	Net Price
BY-2220	22"	20"	Black enamel	$12.90
AY-2220	22"	20"	Grey lacquer	13.80

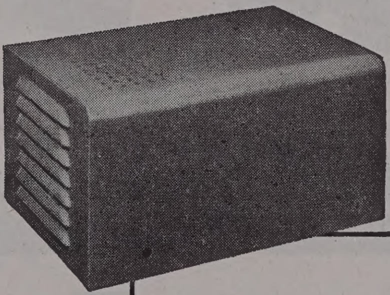
KARP METAL PRODUCTS CO., INC.



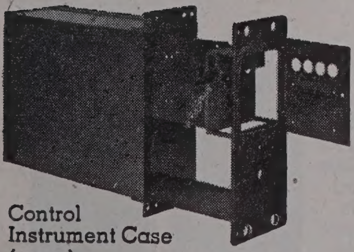
Rectifier Cabinet for Electronic Heater



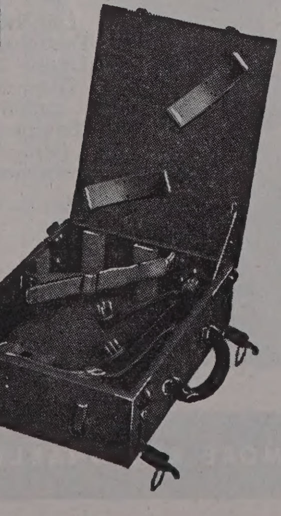
Spare Parts Box with Partitions and Removable Tray



Amplifier Cover



Control Instrument Case (open)



Portable Battery Case

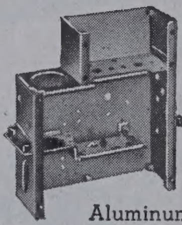
KARP craftsmen, thoroughly skilled and experienced in sheet metal work, individually construct each job to customers' specifications. Complete, modern facilities make possible any manipulation of the material in all stages of manufacture—from the making of the dies, through the fabricating and finishing. Hundreds of stock dies, already on hand, reduce or eliminate the cost of dies. Moreover, **KARP** goes over your plans with you . . . makes recommendations if they are necessary . . . and suggests means of expediting deliveries. Consult a **KARP** engineer or local sales representative when you require highly dependable sheet metal products—whether they be steel, brass, aluminum, monel, stainless steel or an alloy.

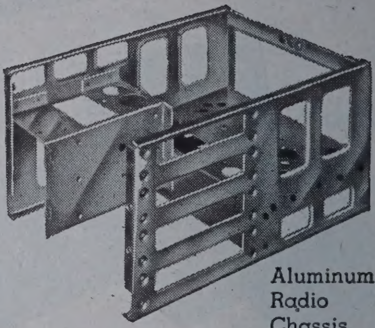
KARP METAL PRODUCTS CO., INC.

Broadcasting Station Control Desk

KARP, AMERICA'S FOREMOST SHEET METAL SPECIALIST, IS GEARED TO PRODUCE

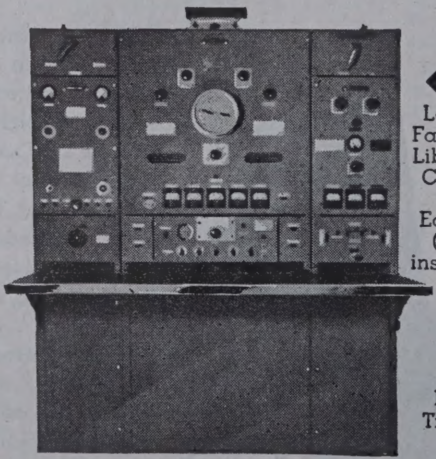
Chassis for Link Trainer

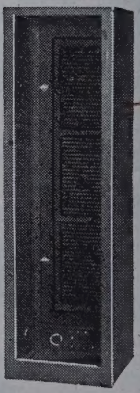

Aluminum Radio Shield


Aluminum Radio Chassis

TO YOUR SPECIFICATIONS SIMPLE OR COMPLEX UNITS OF ANY SIZE, IN ANY

Relay and Switch Gear Rack


Left: Steel Facilities for Liberty Ship Communications Equipment (without instruments)


Relay or Transmitter Rack Cabinet (front view)

Relay or Transmitter Rack Cabinet (rear view)

QUANTITY, MORE EFFICIENTLY, MORE REASONABLY, AND ON SCHEDULE.

MIDDLETOWN MANUFACTURING CO.

METAL PRODUCTS — ELECTRIC DIVISION

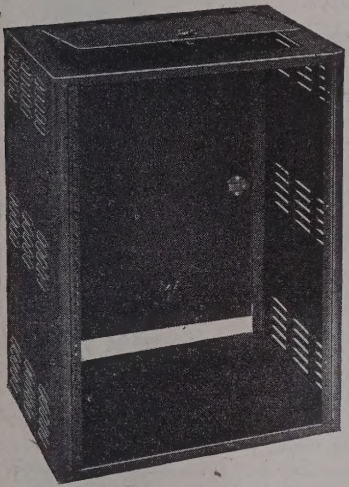
CABINETS • CHASSIS • CASES • PANELS

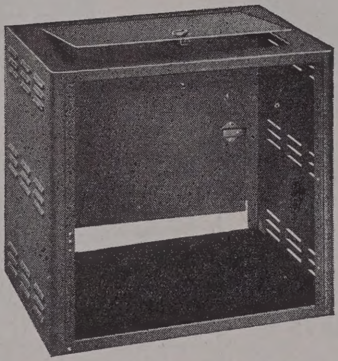
D.C. DELUXE CABINET RACKS—USE 19" RACK PANELS

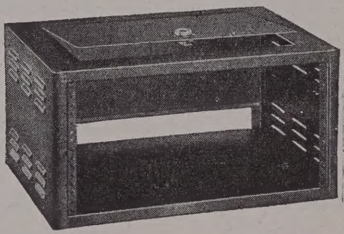
Middletown D. C. Cabinets conform to the conventional design of streamlined cabinets used by builders of amateur and commercial equipment.

FEATURES

- ★ **Constructed of heavy gauge 1/16" steel, electrically welded.**
- ★ **Adequate ventilation is provided by sufficient louvres in sides, and ventilation in back.**
- ★ **Front Vertical posts rounded.**
- ★ **Flush panel mounting (recessed).**
- ★ **Drilled and tapped for 10/32" screws on universal centers.**
- ★ **Flush door in top fitted with flush snap-lock and piano hinges.**
- ★ **Black Wrinkle finish. *Grey Wrinkle if desired.***







Cat. No.		List Price
D.C. 108	Panel Size 8¾" x 19". Size of Cabinet 10½" x 21"½ x 15". Single Unit	$12.50
D.C. 1412	Panel Size 12¼" x 19". Size of Cabinet 14" x 21½" x 15". Single Unit	$15.50
D.C. 1514	Panel Size 14" x 19". Size of Cabinet 15¾" x 21½" x 15". Single Unit	$18.00
D.C. 1917	Panel Size 17½" x 19". Size of Cabinet 19¼" x 21½" x 15". Double Unit—Door Top and Back	$21.50
D.C. 2826	Panel Size 26¼" x 19". Size of Cabinet 28" x 21½" x 15". Triple Unit—Door Top and Back	$24.00
D.C. 3635	Panel Size 35" x 19". Size of Cabinet 36¾" x 21½" x 15". Quad. Unit—Door Top and Back	$27.00

BLANK STEEL CHASSIS

Heavy Duty

Middletown heavy duty Chassis are made from one piece of 1/16" sheet steel—Spot Welded at all four corners. Bottom edges are folded over on all four sides for additional rigidity and drilled to match bottom plates. Ends are drilled to fit standard Middletown brackets. Bottom plates are supplied with these Chassis.

Stock Sizes

BLACK WRINKLE FINISH

Cat. No.	Size	Shipping Weight	List Price
H.D. 8172	8 x 17 x 2"	8 lbs.	$2.90
H.D. 8173	8 x 17 x 3"	9 lbs.	3.25
H.D. 11172	11 x 17 x 2"	10 lbs.	3.25
H.D. 11173	11 x 17 x 3"	11 lbs.	3.50
H.D. 13172	13 x 17 x 2"	11 lbs.	3.80
H.D. 13173	13 x 17 x 3"	13 lbs.	4.15
H.D. 13174	13 x 17 x 4"	14 lbs.	4.60

CHASSIS BRACKETS

Mounting

These brackets are for chassis listed above. Front end of the bracket is seven inches high. Finished in black wrinkle.

Cat. No.	Size	Shipping Weight	List Price
C.B. 8	For 8" Base	2 lbs.	$ .95
C.B. 11	For 11" Base	3 lbs.	1.40
C.B. 13	For 13" Base	3 lbs.	1.70

BLANK STEEL CHASSIS

Standard Type

Middletown Chassis are made from one piece of No. 20 gauge steel spot-welded at all 4 corners—bottom edges are folded over on four sides for additional rigidity and drilled to match bottom plates.

Bottom plates are drilled to match holes on flange of chassis and have pressed bumpers at corners. Material No. 20 gauge steel.

Standard Stock Sizes

BLACK WRINKLE FINISH

Cat. No.	Size	Shipping Weight	List Price
B.S. 591	5½ x 9½ x 1½"	2 lbs.	$ .80
B.S. 5103	5 x 10 x 3"	3 lbs.	1.10
B.S. 4173	4 x 17 x 3"	3 lbs.	1.40
B.S. 6143	6 x 14 x 3"	4 lbs.	1.30
B.S. 772	7 x 7 x 2"	2 lbs.	.95
B.S. 792	7 x 9 x 2"	2 lbs.	1.10
B.S. 7112	7 x 11 x 2"	3 lbs.	1.20
B.S. 7132	7 x 13 x 2"	3 lbs.	1.30
B.S. 7153	7 x 15 x 3"	4 lbs.	1.65
B.S. 7173	7 x 17 x 3"	4 lbs.	1.60
B.S. 8172	8 x 17 x 2"	4 lbs.	1.75
B.S. 8173	8 x 17 x 3"	5 lbs.	1.85
B.S. 10123	10 x 12 x 3"	4 lbs.	1.75
B.S. 10143	10 x 14 x 3"	5 lbs.	1.85
B.S. 10172	10 x 17 x 2"	5 lbs.	1.85
B.S. 10173	10 x 17 x 3"	5 lbs.	1.95
B.S. 10233	10 x 23 x 3"	7 lbs.	2.20
B.S. 11172*	11 x 17 x 2"	7 lbs.	2.25
B.S. 11173*	11 x 17 x 3"	9 lbs.	2.45
B.S. 12172	12 x 17 x 2"	5 lbs.	2.05
B.S. 12173	12 x 17 x 3"	5 lbs.	2.20
B.S. 12174	12 x 17 x 4"	6 lbs.	2.40
B.S. 13172*	13 x 17 x 2"	8 lbs.	2.70
B.S. 13173*	13 x 17 x 3"	9 lbs.	3.05
B.S. 13174*	13 x 17 x 4"	10 lbs.	3.45

*Made from 1/16" Stock.

Bottom Plates

BLACK WRINKLE FINISH

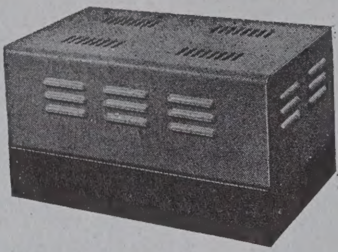
Cat. No.	Size	Shipping Weight	List Price
B.P. 59	5½ x 9½"	1 lb.	$ .50
B.P. 510	5 x 10"	1 lb.	.50
B.P. 417	4 x 17"	2 lbs.	.70
B.P. 614	6 x 14"	1 lb.	.65
B.P. 77	7 x 7"	1 lb.	.55
B.P. 79	7 x 9"	1 lb.	.60
B.P. 711	7 x 11"	1 lb.	.70
B.P. 713	7 x 13"	2 lbs.	.75
B.P. 715	7 x 15"	2 lbs.	.80
B.P. 717	7 x 17"	2 lbs.	.85
B.P. 817	8 x 17"	2 lbs.	.85
B.P. 1012	10 x 12"	2 lbs.	.85
B.P. 1014	10 x 14"	2 lbs.	.90
B.P. 1017	10 x 17"	2 lbs.	1.10
B.P. 1023	10 x 23"	3 lbs.	1.45
B.P. 1117	11 x 17"	2 lbs.	1.15
B.P. 1217	12 x 17"	3 lbs.	1.20
B.P. 1317	13 x 17"	3 lbs.	1.25

MIDDLETOWN MANUFACTURING CO.

METAL PRODUCTS — ELECTRIC DIVISION

CABINETS • CHASSIS • CASES • PANELS

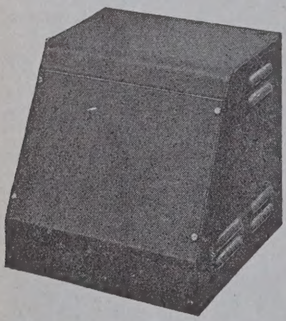
AMPLIFIER FOUNDATIONS—DeLuxe Models



This unit is designed to meet the most critical requirements. It has rounded corners, special Middletown designed louvres on all 4 sides and elongated holes on top to give maximum ventilation. Chassis are finished in Black wrnkle. Covers are finished in Grey wrinkle. Chassis are drilled for bottom plates which are listed separately Covers all have a depth of 6″.

Cat. No.	Size	List Price
A.F.-5103	5 x 10 x 3″	$3.00
A.F.-6143	6 x 14 x 3″	3.50
A.F.-7173	7 x 17 x 3″	4.50
A.F.-10123	10 x 12 x 3″	4.75
A.F.-10173	10 x 17 x 3″	5.35
A.F.-13173	13 x 17 x 3″	6.25

SLOPING FRONT PANEL CABINETS



Sloping front panel cabinets have a wide application in the electronic field snce they are adaptable for various uses. They are constructed of heavy gauge steel electrically spot-welded. Top corner is rounded, front panel is removable, and louvres on sides provide ventilation.

Back panel is ventilated on top and an opening is provided on the bottom so that connections can be made directly to the rear of the chassis. Finished in Grey wrinkle.

Cat.No.	H.W.D.	Chassis Size	List Price
S.F.-888	8 x 8 x 8″	7 x 7 x 2″	$3.75
S.F.-8108	8 x 10 x 8″	7 x 9 x 2″	4.00
S.F.-8148	8 x 14 x 8″	7 x 13 x 2″	4.60
S.F.121812	12 x 18 x 12″	10 x 17 x 3″	8.00

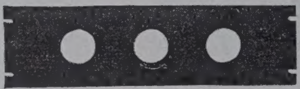
STEEL RACK PANELS — 19" LONG

These panels are made from ⅛″ steel and are slotted for standard amateur mounting. Twelve standard sizes. Furnished in black or grey wrinkle finish. These panels are also supplied with commercial (W.E.) slotting. When ordering commercial type indicate by adding W to our catalogue number below.

Cat. No.	Width	Weight	List Price
R.P. 1	1¾″	2 lbs.	$ .80
R.P. 3	3½″	5 lbs.	.90
R.P. 5	5¼″	7 lbs.	1.15
R.P. 7	7 ″	8 lbs.	1.25
R.P. 8	8¾″	9 lbs.	1.50
R.P. 10	10½″	10 lbs.	1.85
R.P. 12	12¼″	12 lbs.	2.20
R.P. 14	14 ″	13 lbs.	2.50
R.P. 15	15¾″	14 lbs.	2.80
R.P. 17	17½″	15 lbs.	3.15
R.P. 19	19¼″	16 lbs.	3.35
R.P. 21	21 ″	17 lbs.	3.80

When Ordering Specify Black or Grey.

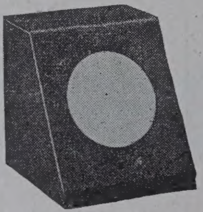
METER PANELS



Middletown Meter Panels are made 5¼″ high and are made to the same specifications as our Rack Panels — are available to fit 3″ meters.

Cat. No.	Holes	Hole Size	List
R.P.M. 33	3	2$\frac{3}{16}$″	$1.75
R.P.M. 35	5	2$\frac{3}{16}$″	2.55

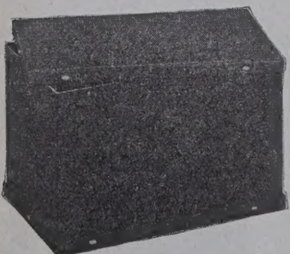
METER CASES



These cases have sloping front panel with rounded top corner which blends with streamline equipment. They are sturdily constructed from sheet steel with welded joints.

Cat. No.	Meter	Hole Size	H.W.D.	List Price
M.C. 13	Single 3″	2$\frac{13}{16}$″	4½ x 4 x 4	$1.35
M.C. 33	3-3″ Meters	2$\frac{13}{16}$″	4½ x 11¼ x 4	3.25

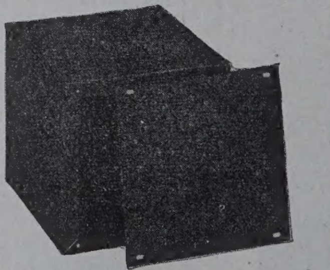
STEEL UTILITY CANS



These Utility Cans are substantially made from sheet steel with spot welded reinforced corners. Tops and bottoms are removable and are flanged on all four sides. Held in place with self-tapping screws.

Cat. No.	Size	Weight	List Price
U.C. 565	5½ x 6 x 5½″	3 lbs.	$1.25
U.C. 596	5 x 9 x 6″	5 lbs.	1.90
U.C. 8107	8 x 10 x 7″	6 lbs.	2.40
U.C. 81010	8 x 10 x 10″	7 lbs.	2.95
U.C. 11128	11 x 12 x 8″	9 lbs.	3.25

STEEL CASES — STANDARD

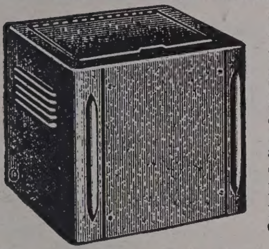


These cases are similar to our standard steel utility cans except they have flat tops and bottoms which are held in place with self tapping screws and are removable. These cases are of sturdy construction and have spot welded corners. Case has flanges on all edges. Furnished in black wrinkle.

Cat. No.	Size	Weight	List Price
S.C. 442	4 x 4 x 2 ″	2 lbs.	$ .95
S.C. 453	4 x 5 x 3 ″	3 lbs.	1.05
S.C. 666	6 x 6 x 6 ″	3 lbs.	1.25
S.C. 1276	12 x 7 x 6 ″	5 lbs.	2.50
S.C. 1591	15 x 9 x 7 ″	9 lbs.	3.50
S.C. 1287	12 x 7¾ x 6½″	9 lbs.	2.55
S.C. 1597	15 x 7¾ x 6½″	11 lbs.	3.00

ICA INSULINE ICA
RADIO-PRODUCTS

ICA DE LUXE HINGED STEEL CABINETS



The cabinets have rounded corners with specially designed Chrome plated "Air-Gate" ventilators on sides; and vertical Chrome Plated Trim moulding on front. Modern grille type ventilators are provided on the back panels which also have an opening on the bottom to allow for leads, cable connections, etc.

Bottoms have 4 embossed feet.

Finished in a beautiful Marine Gray Ripple Enamel.

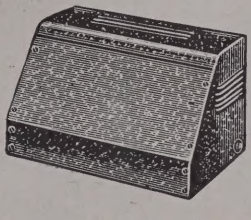
No.	H. L. D.	Panel Size	Net
3860	8″ x 10″ x 8″	8″ x 8″	$4.35
3861	8″ x 12″ x 8″	8″ x 10″	4.50
3862	8″ x 14″ x 8″	8″ x 12″	5.40
3863	12″ x 20″ x 12″	12″ x 18″	8.40

ICA DE LUXE SLOPING PANEL CABINETS

The top corners are rounded and trimmed with a beautiful red striped chrome trim. The sides of the cabinets have the beautiful "Air-Gate" Chrome ventilators.

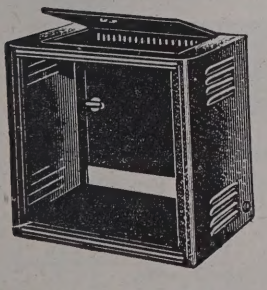
The front panel is removable so that the chassis can be attached to it and used as one unit.

Beautifully finished in Marine Gray Ripple Enamel.



No.	H.	W.	D.	Net
3990	8″	x 8″	x 8″	$3.96
3991	8″	x 10″	x 8″	4.35
3992	8″	x 14″	x 8″	5.25
3993	12″	x 18″	x 8″	7.65

ICA MULTI-USE METAL CABINETS



An ideal unit for public address systems, transmitters, receivers, test equipment, etc. Has rounded corners on front of Cabinet. Trimmed with handsome red striped chrome trim moulding. Equipped with hinge doors, and nickel brass snap locks. Completely assembled, ready for use. Finished in Black or Marine Gray Ripple Enamel. Black will be supplied unless Gray is specified.

SINGLE UNITS

Net

No. 3880 ....$9.90
Size 10½″ x 21″ x 13½″ Deep.
Door on top only. Panel size 8¾″ x 19″.

No. 3881 ....12.00
Size 14″ x 21″ x 13½″ Deep.
Door on top only. Panel size 12¼″ x 19″.

DOUBLE UNIT

No. 3882 ....16.65
Size 19¼″ x 21″ x 13½″ Deep.
Doors on top and rear. Panel size 17½″ x 19″.

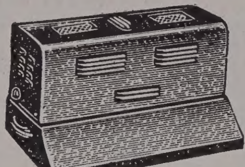
TRIPLE UNIT

No. 3883 ....18.60
Size 28″ x 21″ x 13½″ Deep.
Door on rear panel only. Panel size 26¼″ x 19″.

QUADRUPLE UNIT

No. 3884 ....20.70
Size 36¾″ x 21″ x 13½″ Deep.
Door on rear panel only. Panel size 35″ x 19″.

ICA DE LUXE SLOPING CHASSIS AMPLIFIER UNITS



Chassis are sloped and are equipped with beautiful chrome trimmed handles. Slope provides ample space for mounting instruments.

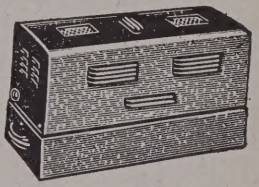
The top covers have beautiful Chrome Plated "Air-Gate" Ventilators with red striped chrome trim. Supplied with ventilating louvres on sides and back. Have raised rectangular screen opening on the tops, embellished with red striped chrome moulding. Marine Gray Ripple finish.

No.	Overall Size	Chassis Bottom	Chassis Height	Slope Size	Net
3962	7 x 17 x 9½	10 x 17	3½″	4″	$5.46
3963	10 x 14 x 9½	13 x 14	3½″	4″	6.15
3964	10 x 17 x 9½	13 x 17	3½″	4″	6.60

ICA DE LUXE AMPLIFIER FOUNDATION CHASSIS

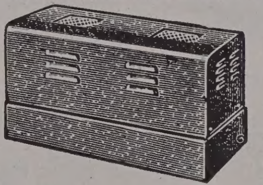
Top covers have rounded corners and fronts are embellished with the newly created Chrome plated "Air-Gate" Ventilators. Additional ventilation is obtained through the raised screen openings on the top as well as louvres on both sides and back.

Have beautiful red striped Chrome mouldings and Chrome handles. Finished in Marine Gray Ripple Enamel.



No.	Size	Height of Chassis	Net
3971	5½″ x 10″ x 9″	3″	$3.69
3972	8 ″ x 12″ x 9″	3″	4.80
3973	7 ″ x 17″ x 9″	3″	4.95
3974	10 ″ x 14″ x 9″	3″	5.40
3975	10 ″ x 17″ x 9″	3″	5.70

ICA STANDARD AMPLIFIER FOUNDATION UNITS



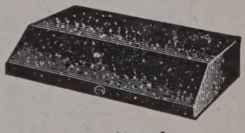
Top covers have rounded corners. The front, sides and back are equipped with louvre ventilators. The tops have raised screen openings for additional ventilation.

Finished in beautiful Marine Gray Ripple Enamel.

No.	Size	Height of Chassis	Net
3980	5½″ x 10″ x 9″	3″	$2.16
3981	8 ″ x 12″ x 9″	3″	3.15
3982	7 ″ x 17″ x 9″	3″	3.24
3983	10 ″ x 14″ x 9″	3″	3.51
3984	10 ″ x 17″ x 9″	3″	3.69

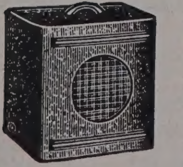
ICA SLOPING FRONT CHASSIS

Has a sloping front for mounting instruments and which enhances the appearance of any unit on which it is used. Has the effect of a beautiful open cabinet receiver, or amplifier unit, when used without top covers. Made of Heavy Duty Steel, finished in Black Ripple Enamel.



No.	Top of Base	Bottom of Base	Height	Size of Slope	Net
3320	7 x 17″	10 x 17″	3½″	4″	$1.98
3321	10 x 14″	13 x 14″	3½″	4″	2.19
3322	10 x 17″	13 x 17″	3½″	4″	2.49

ICA DE LUXE SPEAKER CABINETS

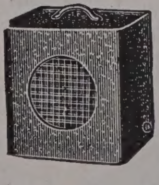


Trimmed with red striped chrome trim. Has beautiful red striped chrome handle on top. Marine Gray Ripple finish.

No.	Size	Hole Size	Speaker Size	Net
3935	10 x 10 x 6″	4¾″	6″	$4.20
3936	12 x 12 x 7″	6½″	8″	5.28
3937	14 x 14 x 8″	9 ″	10″	6.60
3938	16 x 16 x 8″	11 ″	12″	8.70

ICA STANDARD SPEAKER CABINETS

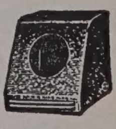
Finished in Black Ripple Enamel with plain back steel handles to match.



No.	Size	Size Hole	Size Speaker	Net
3942	10 x 10 x 6″	4¾″	6″	$3.06
3943	12 x 12 x 7″	6½″	8″	3.66
3944	14 x 14 x 8″	9 ″	10″	4.80
3945	16 x 16 x 8″	11 ″	12″	6.45

ICA DE LUXE METER CASES

Finished in Marine Gray Ripple Enamel with rounded tops and trimmed with beautiful red striped Chrome band. Available for 2″ or 3″ meters.



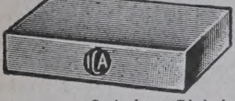
No.	D. W. H.	Meter Hole	Net
3995	4¼ x 4$\frac{3}{16}$ x 4½″	2$\frac{3}{16}$″	$1.35
3996	4¼ x 4$\frac{3}{16}$ x 4½″	2$\frac{3}{16}$″	1.35

SPECIAL SIZE CABINETS AND CHASSIS MADE TO MANUFACTURERS' SPECIFICATIONS.

ICA INSULINE ICA
RADIO PRODUCTS

ICA STEEL CHASSIS BASES

HEAVY DUTY



One-piece steel chassis bases. Solidly constructed! Suitable for receivers, transmitters, amplifiers, etc. Chassis bases are folded over on bottom for additional strength. They are also drilled to allow for the attaching of bottom plates.

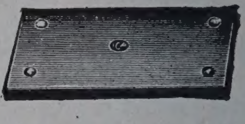
Cadmium Plated Finish

No.	Size	Gauge	Net
1560	4¾ x 8½ x 1½"	#20	$ .63
1530	5 x 9½ x 1½"	#20	.66
1565	5 x 9½ x 3 "	#20	.87
1582	5½ x 10 x 3 "	#20	.93
1566	5 x 13 x 3 "	#20	1.05
1526	7 x 7 x 2 "	#20	.84
1569	7 x 9 x 2 "	#20	.90
1570	7 x 11 x 2 "	#20	.99
1527	7 x 12 x 3 "	#20	1.17
1571	7 x 13 x 2 "	#20	1.08
1572	7 x 15 x 3 "	#20	1.29
1528	7 x 17 x 3 "	#20	1.29
1567	8 x 12 x 3 "	#20	1.29
1573	8 x 17 x 2 "	#20	1.38
1575	8 x 17 x 3 "	#20	1.47
1562	10 x 11 x 2½"	#20	1.38
1520	10 x 12 x 3 "	#20	1.41
1568	10 x 14 x 3 "	#20	1.47
1583	10 x 17 x 3 "	#20	1.32
1521	10 x 17 x 3 "	#18	1.59
1522	10 x 23 x 3 "	#18	1.98
1577	11 x 17 x 2 "	#18	1.80
1519	11 x 17 x 3 "	#18	1.98
1574	12 x 17 x 2 "	#18	1.80
1578	12 x 17 x 3 "	#18	1.98
1579	13 x 17 x 2 "	#18	2.16
1524	13 x 17 x 3 "	#18	2.49
1580	10 x 17 x 4 "	#18	2.10
1581	13 x 17 x 4 "	#18	2.82

Black Ripple Finish

No.	Size	Gauge	Net
4000	4¾ x 8½ x 1½"	#20	$ .60
4001	5 x 9½ x 1½"	#20	.63
4002	5 x 9½ x 3 "	#20	.84
4032	5½ x 10 x 3 "	#20	.84
4003	5 x 13 x 3 "	#20	.99
4024	7 x 7 x 2 "	#20	.78
4004	7 x 9 x 2 "	#20	.84
4005	7 x 11 x 2 "	#20	.90
4006	7 x 12 x 3 "	#20	1.05
4007	7 x 13 x 2 "	#20	.99
4008	7 x 15 x 3 "	#20	1.23
4009	7 x 17 x 3 "	#20	1.23
4013	8 x 12 x 3 "	#20	1.23
4014	8 x 17 x 2 "	#20	1.32
4035	8 x 17 x 3 "	#20	1.41
4015	10 x 11 x 2½"	#20	1.32
4016	10 x 12 x 3 "	#20	1.32
4017	10 x 14 x 3 "	#20	1.38
4033	10 x 17 x 3 "	#20	1.23
4018	10 x 17 x 3 "	#18	1.50
4019	10 x 23 x 3 "	#18	1.86
4027	11 x 17 x 2 "	#18	1.65
4023	11 x 17 x 3 "	#18	1.86
4020	12 x 17 x 2 "	#18	1.71
4028	12 x 17 x 3 "	#18	1.86
4029	13 x 17 x 2 "	#18	2.07
4021	13 x 17 x 3 "	#18	2.31
4030	10 x 17 x 4 "	#18	1.98
4031	13 x 17 x 4 "	#18	2.64

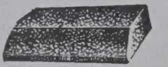
ICA CHASSIS BOTTOM PLATES



Designed to fit all ICA Chassis Bases and amplifier units listed above. Equipped with four raised bosses which prevent marring or scratching.

Cadmium Plated No.	Black Ripple No.	Size	Net
1601	4051	5 x 9½"	$ .39
1602	4052	5 x 13 "	.48
1623	4073	7 x 7 "	.48
1603	4053	7 x 9 "	.48
1604	4054	7 x 11 "	.54
1605	4055	7 x 12 "	.57
1606	4056	7 x 13 "	.57
1607	4057	7 x 15 "	.63
1608	4058	7 x 17 "	.66
1612	4062	8 x 12 "	.66
1613	4063	8 x 17 "	.69
1614	4064	10 x 11 "	.69
1615	4065	10 x 12 "	.69
1616	4066	10 x 14 "	.75
1617	4067	10 x 17 "	.84
1618	4068	10 x 23 "	1.08
1622	4072	11 x 17 "	.84
1619	4069	12 x 17 "	.90
1620	4070	13 x 17 "	1.08
1624	4074	13 x 14 "	.90

ICA SLOPING FRONT CHASSIS



Has a sloping front for mounting instruments. Has the effect of a beautiful open cabinet receiver, or amplifier unit, when used without top covers. Made of Heavy Duty Steel, finished in Black Ripple Enamel.

No.	Top of Base	Bottom of Base	Hgt.	Size of Slope	List
3320	7x17"	10x17"	3½"	4"	$1.65
3321	10x14"	13x14"	3½"	4"	1.80
3322	10x17"	13x17"	3½"	4"	1.98

ICA Masonite Relay Rack Panels

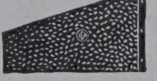
Made of Tempered Masonite—a non-magnetic material, sturdy and tough yet easily drilled and worked with ordinary wood-working tools and punches. Finished in Black or Gray. Supplied in Black Ripple finish unless Gray is specified.

No.		List
3662	1¾ x 19"	$.48
3663	3½ x 19"	.60
3664	5¼ x 19"	.75
3665	7 x 19"	.87
3666	8¾ x 19"	1.05
3667	10½ x 19"	1.20
3668	12¼ x 19"	1.20
3669	14 x 19"	1.50
3670	15¾ x 19"	1.65
3671	17½ x 19"	1.92
3672	19¼ x 19"	2.07
3673	21 x 19"	2.31

Special Sizes Rack Panels To Order

We can supply Rack Panels in any thickness from ⅛" to ¼" in Steel, Aluminum or Masonite; in any finish to specifications.

ICA RELAY RACK BRACKETS



Black Ripple Finish.
Used to reinforce racks and for mounting of panels, shelves, chassis, etc.

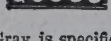
No.			Net
3950	5" Base Brackets	Per Pair	$ .63
3951	8" Base Brackets	Per Pair	.90
3952	11" Base Brackets	Per Pair	1.20

ICA Standard Relay Rack Panels

ICA relay rack panels are supplied in ⅛" thickness, completely slotted and finished in a beautiful Baked Black or Marine Gray Ripple Finish.
Supplied in Amateur Rack notching, first notch ⅞" from edge of Panel and 1¾" between centers. 19" long.

Steel Black Ripple Finish No.	Size	Net	Steel Gray Ripple Finish No.	Size	Net
3600	1¾"	$.66	3612	1¾"	$.66
3601	3½"	.75	3613	3½"	.75
3602	5¼"	.87	3614	5¼"	.87
3603	7"	.93	3615	7"	.93
3604	8¾"	1.17	3616	8¾"	1.17
3605	10½"	1.32	3617	10½"	1.32
3606	12¼"	1.62	3618	12¼"	1.62
3607	14"	1.86	3619	14"	1.86
3608	15¾"	2.16	3620	15¾"	2.16
3609	17½"	2.31	3621	17½"	2.31
3610	19¼"	2.49	3622	19¼"	2.49
3611	21"	2.82	3623	21"	2.82

ICA METER PANELS

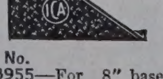


Slotted to fit all standard racks. Finished in Baked Black or Gray Ripple. Size 5¼" x 19".
Black will be shipped unless Gray is specified.

STEEL PANELS

No.	No. Holes	Meter Size	Net
3651	5	2"	$2.16
3652	3	2"	1.50
3653	5	3"	2.16
3654	3	3"	1.50

ICA Chassis Mounting Brackets

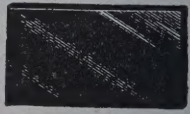


Made to fit on 17" relay rack chassis. Panels must be at least 7" high.
Black ripple finish.

No.			Net
3955	For 8" base	Per Pair	$ .75
3956	For 11" base	Per Pair	1.14
3957	For 13" base	Per Pair	1.32

ICA BAKELITE RADIO PANELS

Black, Polished Mirror Finish



⅛" Thickness No.		Net	$\frac{3}{16}$" Thickness No.		Net
832	7 x 10	$.93	842	7 x 10	$1.35
833	7 x 12	1.11	843	7 x 12	1.65
834	7 x 14	1.20	844	7 x 14	1.95
835	7 x 18	1.80	845	7 x 18	2.46
836	7 x 21	1.86	846	7 x 21	2.79
837	7 x 24	2.10	847	7 x 24	3.30
840	7 x 30	2.70	850	7 x 30	4.05
860	10 x 12	1.65	863	10 x 12	2.49
861	10 x 18	2.19	864	10 x 18	3.39

ICA METAL PANELS

Black Ripple Finish
Thickness of Panels $\frac{1}{16}$"

No.	Size	Net
3175	7 x 10"	$.48
3176	7 x 12"	.54
3177	7 x 14"	.63
3178	7 x 18"	.84
3183	8 x 12"	.66
3184	8 x 14"	.72
3186	8 x 18"	.84
3191	10 x 14"	1.17
3192	10 x 18"	1.32
3194	10 x 24"	1.65

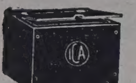
ICA MASONITE PANELS

Black Ripple Finish
Thickness of Panels $\frac{3}{16}$"

No.	Size	Net
810	7 x 10"	$.60
811	7 x 12"	.66
812	7 x 14"	.75
813	7 x 18"	.90
814	7 x 21"	.99
815	8 x 12"	.81
816	8 x 14"	.87
817	8 x 16"	.99
818	8 x 18"	1.08

ICA INSULINE ICA
RADIO PRODUCTS

ICA HINGED COVER CABINETS

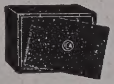


Supplied in knocked-down form for easy handling. Easily assembled.

Finished in Black Ripple Enamel.

No.	W.	L.	H.	Net
3825	9″ x	5″ x	6″	$2.40
3826	10″ x	8″ x	7″	3.00
3828	12″ x	8″ x	7″	3.45
3829	12″ x	11″ x	8″	4.11
3830	14″ x	8″ x	7″	3.66
3831	18″ x	12″ x	9″	5.16

ICA METAL CABINETS
Black Ripple Finish

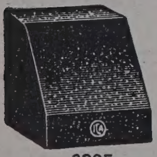


Have various uses such as input stages, mixers, transceivers, amplifiers, monitors, etc. Front and back covers are removable and can be fastened to cabinet with self tapping machine screws. Finished in Black Ripple Enamel.

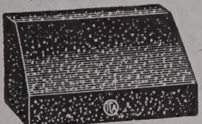
No.	L.	W.	H.	Net
3810	4″ x	2″ x	4″	$.78
3811	4″ x	3″ x	5″	.84
3800	6″ x	6″ x	6″	.93
3801	9″ x	5″ x	6″	1.50
3802	10″ x	8″ x	7″	1.89
3803	10″ x	8″ x	10″	2.31
3804	12″ x	11″ x	8″	2.49

ICA SLOPING PANEL CABINETS
Small—Compact

New streamlined cabinets, rugged, small and compact, have various uses such as speaker cabinets, oscillator cases, input stages, small receivers, teletalk systems, monitors, etc.



3905

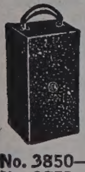


3906

Beautifully designed, with rounded corners and finished in marine gray ripple.

No.	W.	H.	D.	Net
3905	4¼″ x	4½″ x	4¼″	$1.29
3906	7½″ x	4½″ x	4¼″	2.31

ICA PORTABLE STEEL CABINETS



Ideal for housing oscillators, transceivers, test equipment, etc. Both front and back panels are removable and are held with self-tapping screws which are supplied. Equipped with leather handle. Finished in black ripple.

No. 3850—Size 12 x 7¾ x 7″........ Net $2.31
No. 3851—Size 15 x 7¾ x 7″........ Net 2.70

Chassis for above

No. 4025—7½ v 6¾ x 2½........ Net .45

ICA SPAGHETTI TUBING

For No. 10 to No. 18 gauge wire. Guaranteed not to crack. Furnished in 30″ lengths.

No.	Color	Net per length
182	Red	$.11
183	Yellow	.11
184	Brown	.11
185	Green	.11
186	Black	.11

SMALL SIZE SPAGHETTI TUBING

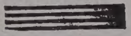
No.	Color	Net
200	Red	$.11
201	Yellow	.11
202	Black	.11

LARGE SIZE SPAGHETTI TUBING

Supplied in 36″ lengths. Diameter 9/64″ I.D. x 15/64″ O.D.

No. 196—Supplied in black only
Net — per length $ .30

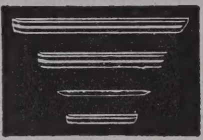
ICA CHROMO-GRAVURE METAL TRIM PLATES



A new and excellent material used to lend Beauty and Color to any Chassis, Cabinets, Amplifier Chassis, Receivers, Test Equipment Cases, etc.

No.	Size	Net
3550	3″ x 10″	$.60
3551	3″ x 12″	.75
3552	3″ x 14″	.84
3553	3″ x 17″	1.02
3554	3″ x 23″	1.44
3555	4″ x 14″	1.20
3556	4″ x 17″	1.44

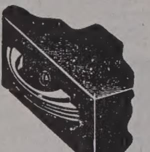
ICA CHROME TRIM MOULDING



Beautiful chrome trim mouldings to dress up any cabinet, chassis, receiver, speaker cabinet, transmitter, etc. All mouldings furnished with mounting tracks or clips.

No.		Net
3510	Chrome Moulding with single Red Stripe—size $\frac{5}{16}$″ w. by 4″ l.	$.36
3513	Chrome Moulding with double Red Stripe—size ¾″ w. by 8″ l.	.60
3514	Chrome Moulding with double Red Stripe—size ¾″ w. by 12″ l.	.69
3515	Chrome Moulding with double Red Stripe—size ¾″ w. by 18⅞″ l.	.84
3505	Bullet Shape all Chrome Moulding—size $\frac{5}{16}$″ w. by 6″ l.	.36

ICA CHROME HANDLES



A beautiful adornment for any cabinet, amplifier chassis transmitter, etc. Furnished with mounting screws.

No. 3500—Chrome Handle with two Red Stripes across the full length. Dimensions 4″ long, $\frac{11}{16}$″ wide. Mounting centers 2¾″apart........ **Net $.42**

No. 3501—All Chrome Handle. Dimensions 5½″ long by ½″ wide. Mounting centers $4\frac{13}{16}$″ apart. **Net .42**

ICA FLEXIBLE VARNISHED TUBING SPAGHETTI
20 Foot Lengths

VARNISHED SPAGHETTI
ICA
TUBING

A flexible tubing, heavily varnished, in attractive colors. Average dielectric strength, 5000 volts. Will accommodate from No. 10 to No. 18 wires.

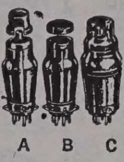
Furnished in one length—20 feet long on handy spools.

No.	Color		Net
210	Red	Per Spool	$ .75
211	Yellow	Per Spool	.75
212	Brown	Per Spool	.75
213	Green	Per Spool	.75
214	Black	Per Spool	.75

500 Foot Spools, spaghetti tubing, same grade and colors as above. Specify color per spool.
No. 197 .... **Net $17.10**

We will make to manufacturers' specifications: GRID CAPS — PLASTIC, STEEL OR BRASS; TERMINAL BOARDS, JACKS, PLUGS, NAME PLATES, DIAL PLATES, ETC.

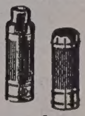
ICA GLOVE-TITE TUBE SHIELDS



No. 1720 TYPE A—For Dome type (ST-12 short).
No. 1720 Type C—With Ring. (ST-12 short).
No. 1722 TYPE B—For Dome type (ST-12 long).
No. 1722 Type C—With Ring (ST-12 long).
No. 1718 TYPE C—For Dome type (ST-12 med.).
No. 1721 TYPE D—For Dome type (ST-14).

All Types, each .... Net $ .15

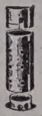
ICA G. T. and BANTAM TUBE SHIELDS



Designed for the new 1½ Volt Bantam glass tubes or T9 Bulbs. Available with or without grid cap.

No.		Net
1729	G. T.—Shield	$.12
1726	Shielded cap—one piece—grounds automatically	.12
1727	Shield complete with grid lead cap and ground clip	.15

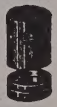
ICA ALUMINUM TUBE SHIELD



For 55, 57, 58, etc. type tubes.

No.		Net
1708	$1\frac{11}{16}$″ mounting centers	$.27
1709	1½″ mounting centers	.27

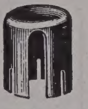
ICA COIL SHIELDS
with Detachable Base



A sturdy coil shield made of aluminum with a detachable base.

No.		Net
1539	$2\frac{1}{16}$″ x 3″ High	$.36
1540	2½″ x 3½″ High	.42
1549	3″ x 3½″ High	.45

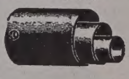
ICA GRID CAP SHIELDS
(For Metal Tubes)



Fits firmly over grid cap of metal tubes affording complete shielding. Slotted cap permits passage of grid wire.

No.	Net
1552	$.12

BAKELITE AND FENOLINE TUBING

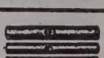


ICA tubing is strong mechanically, has extremely low electrical absorbtion and is highly resistant to moisture. Absolute perfection in winding of coils is assured by the use of ICA tubing—thus affording relief from complaints or failure in performance.

Finished in Natural and Black Colors
Small sizes up to one inch in Black only.
$\frac{1}{16}$″ Wall Thickness, Full Lengths.
Approximately 36 to 48″

BAKELITE			FENOLINE		
No.	O.D.	Per Ft.	No.	O.D.	Per Ft.
100	¼″	$.57	161	¼″	$.51
101	⅜″	.69	162	⅜″	.54
102	$\frac{7}{16}$″	.72	163	$\frac{7}{16}$″	.60
103	½″	.78	164	½″	.63
104	⅝″	.84	165	⅝″	.66
105	¾″	.93	166	¾″	.69
106	⅞″	.99	167	⅞″	.75
147	1″	1.05	134	1″	.69
148	1¼″	1.17	135	1¼″	.81
149	1½″	1.23	136	1½″	.84
150	1¾″	1.35	137	1¾″	.93
151	2″	1.50	138	2″	1.02
152	2¼″	1.62	139	2¼″	1.11
153	2½″	1.89	140	2½″	1.23
154	2¾″	2.10	141	2¾″	1.47
155	3″	2.40	142	3″	1.59
156	3¼″	2.52	143	3¼″	1.71
157	3½″	2.70	144	3½″	2.01
158	3¾″	2.70			
159	4″	3.30			

ICA "INSULOID" RODS



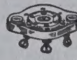
No.	Color	Size	Net
2175	Black	12″ x ¼″	$.27
2176	Black	24″ x ¼″	.48
2179	Black	12″ x ⅜″	.36
2180	Black	24″ x ⅜″	.72

ICA INSULINE ICA
RADIO PRODUCTS

ICA BASE-MOUNTING BAKELITE SOCKETS

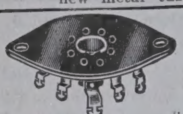
No.	Net
2480—4 Prong	$.27
2481—5 Prong	.30
2482—6 Prong	.33
2483—7 Prong comb. large and small	.36
2489—8 Prong OCTAL	.39

ICA "INSULEX" WAFER SOCKETS



An ideal low loss socket designed for ultra high frequency reception.

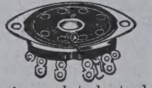
No.	Net
2600—4 Prong	$.39
2601—5 Prong	.39
2602—6 Prong	.42
2603—7 Prong, large	.42
2604—7 Prong, small	.42
2605—8 Prong OCTAL for new metal tubes	.51



ICA BAKELITE WAFER SOCKETS

No.	Net
1118—4 Prong	$.10
1096—5 Prong	.10
1095—6 Prong	.10
1119—7 Prong, small	.10
1120—7 Prong, small	.10
1121—8 Prong OCTAL	.12
1123—Loktal Wafer	.12

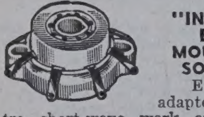
ICA MOLDED BAKELITE SNAP-ON SOCKETS



Octal—Loktal

Mounted in cadmium plated steel "Saddle" Standard 1½" Mounting centers—Requires 1⅛" hole in chassis—Equipped with 4 grounding lugs on saddle—Positive grip contacts.

No. 2470—Octal Socket **Net $.11**
No. 2471—Loktal Socket **Net .12**

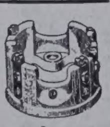


ICA "INSULEX" BASE MOUNTING SOCKETS

Especially adapted for ultra short-wave work and transmitters.

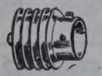
No.	Net
290—4 Prong	$.54
291—5 Prong	.54
292—6 Prong	.60
294—Comb. 7 Prong, large and small	.60
300—8 Prong OCTAL	.60

ICA "INSULEX" ACORN TUBE SOCKET



For 954, 955 and 956 acorn tubes. The perfect socket for U.H.F. and micro wave transmitters and receivers. 1⅛" in diameter, ⅝" high.

No. 959 ....**Net $.90**

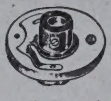


HEAT DISSIPATING TUBE CAPS

Heavy Duty plate cap connectors for dissipating heat generated at Grid and plate connections of transmitting tubes. Supplied for wire and cap type leads.

No.	Net
965—HK 54, 35T	$.30
966—HK 24, etc.	.30
967—866, T-125, etc.	.51
968—100, T-807, etc.	.51

ICA BAKELITE FLEXIBLE SHAFT COUPLING



Flexible phosphor bronze spring contact mounted on a round bakelite disc. 1" diameter. Has ¼" bushing.

No. 2142 ....**Net $.39**

ICA INSULEX FLEXIBLE SHAFT COUPLING

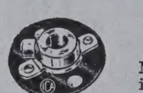
Flexible phosphor bronze spring contact mounted on Insulex disc for efficient low-loss coupling. 1" diameter. Has ¼" bushing.

No. 2143 ....**Net $.48**

ICA INSULEX FLEXIBLE COUPLERS

Utilizes a circular disc of Insulex ¾" diameter and two ¼" bushings mounted on flexible phosphor bronze springs.

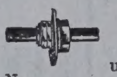
No. 2100 ....**Net $.36**



ICA BAKELITE FLEXIBLE COUPLER

Made of Flexible bakelite, diameter ¾" and ¼" bushings mounted on flexible phosphor bronze spring.

No. 2101 ....**Net $.27**



ICA PANEL BEARING ASSEMBLY

Will fit on panels up to 5/16" thickness.

No.	Net
1248—Over-all length 3"	$.30
1249—Over-all length 6"	.36
1250—Bearings only	.15

ICA SHAFT COUPLINGS AND EXTENSION RODS

Brass Couplings and Reducers

No.	Length	Hole	O.D.	Net
2105	¾"	¼" coupler	½"	$.15
2106	¾"	⅜" coupler	9/16"	.15
2107	¾"	⅜" to ¼" coupler	9/16"	.15
2111	1⅛"	¼" to ¼" shaft	½"	.15
2112	1⅛"	⅜" to ¼" shaft	9/16"	.15
2113	1⅛"	¼" to ⅜" shaft	9/16"	.15

2125—Brass Split Bushing ⅝" long x ⅜" O.D. x ¼" I.D. .09

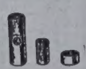
ICA Fenoline Couplings and Reducers

No.	Length	Hole	O.D.	Net
2116	¾"	¼" coupler	½"	$.15
2108	¾"	⅜" coupler	9/16"	.15
2109	¾"	⅜" to ¼" coupler	9/16"	.15
2110	1⅛"	¼" to ¼" shaft	½"	.15

Long Extension Couplings

Made of Brass with extra long extension

No.	Material	Length	Hole I.D.	O.D.	Net
2123	Brass	¾"	¼"	½"	$.21



ICA SPACER AND BUSHING ASSORTMENTS

Brass and Insulated

Assortment of 25 spacers and bushings in ¼ & ⅜. Diameters from ¼" to ¾" long. Ideal for raising sub panels, chassis, etc.

No.	Net
5260—Insulated Assortment	$.84
5261—Brass Assortment	.84

Threaded Brass Bushing Assortments

5262—16 Assorted Brass bushings Threaded for 6/32 from ¼" to ¾"	.84
5263—16 Assorted Brass bushings Threaded for 8/32 from ¼" to ¾"	.84

ICA SHORT-WAVE AND BROADCAST COILS

Wound on Small Bakelite Rim Type Forms

Tuned with 140 MMF. (.00014) or 150 MMF (.00015) condensers.

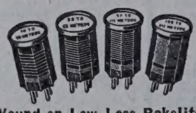
4 PRONG—2 WINDINGS
With Primary and Secondary Windings

No.	Net
1421B—Set of 4 Short Wave Coils —Covering 9½ to 217 Meters.	$1.20
1430B—Set of 2 Broadcast Coils —Covering 190 to 550 Meters.	1.05

6 PRONG—3 WINDINGS
With Primary, Secondary and Tickler

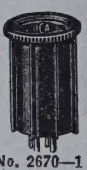
1423B—Set of 4 Short Wave Coils —Covering 9½ to 200 Meters.	$1.80
1424B—Set of 2 Broadcast Coils —Covering 190 to 550 Meters.	1.41

ICA SHORT WAVE AND BROADCAST PLUG-IN COILS



Wound on Low-Loss Bakelite Ribbed Forms

No.	Net
4 PRONG—2 WINDINGS	
1471—Set of 4 short wave coils— —covering 9½ to 217 Meters..	$1.50
1473—Set of 2 Broadcast coils — —covering 190 to 550 Meters..	1.20
6 PRONG—3 WINDINGS	
1474—Set of 4 short wave coils— —covering 9½ to 200 Meters..	2.10
1476—Set of 2 Broadcast coils — —covering 190 to 550 Meters..	1.80



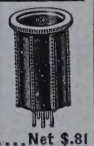
ICA TRANSMITTING COIL FORMS

2¼" Diameter
3½" High

Made of Low-Loss RX-47 Dielectric. Rugged and durable. Amber color. Size of body affords 3¼" of winding space.

No. 2670—1 Prong...........**Net $.54**
No. 2671—5 Prong...........**Net .57**
No. 2672—6 Prong...........**Net .66**

ICE GROOVED TRANSMITTING COIL FORMS



2¼" diam., 3½" high

Ribs grooved for Precision Space Winding with a right hand thread — 20 grooves per inch, cut at 99° per "V" .025 deep.

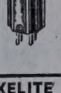
No. 2675—4 Prong...........**Net $.81**
No. 2676—5 Prong...........**Net .84**
No. 2677—6 Prong...........**Net .90**

ICA LARGE LOW-LOSS RIBBED COIL FORMS AMBER BAKELITE

1⅝" Diameter
3⅝" High

No.	Net
1051—4 Prong	$.30
1052—5 Prong	.30
1053—6 Prong	.33

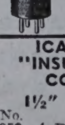
ICA SMALL RIBBED COIL FORMS



Made of Amber Color Bakelite

1⅜" diam., 2¼" high

No.	Net
2158—4 Prong	$.24
2159—5 Prong	.24
2160—6 Prong	.24

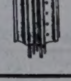


ICA SMALL BAKELITE COIL FORMS

1¼" diam., 2¼" high

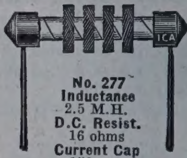
No.	Net
1108B—4 Prong	$.21
1113B—5 Prong	.21
1114B—6 Prong	.21

ICA LOW-LOSS "INSULEX" RIBBED COIL FORMS



1½" diam., 3" high

No.	Net
952—4 Prong	$.48
953—5 Prong	.54
954—6 Prong	.60



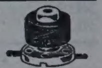
No. 277
Inductance
2.5 M.H.
D.C. Resist.
16 ohms
Current Cap
150 ma.
Net $.30

ICA "Insulex" R.F. CHOKE COIL

Silk Wire Wound

Supplied with wire leads for mounting.

ICA "INSULEX" R.F. CHOKES

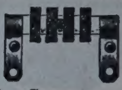


Cat. No.	Inductance	D.C. Resis.	Current Cap	Net
1777	2.5	30	150	$.36
1775	5.5	57	150	.45
1774	10	73	150	.48
1772	30	136	125	.54
1773	60	196	125	.69
1771	80	222	125	.75

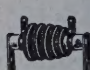
IRON CORE HIGH "Q" R.F. CHOKES

No.	Ind. M.H.	D.C. Res. ohms	Net
6200	2.5	17	$.51
6201	3.5	22	.54
6202	5.5	28	.60
6203	10	55	.69
6204	30	83	.75
6205	60	142	.84
6206	80	168	.96
6207	125	214	1.20

ICA INSULEX R.F. CHOKES



No.	Ind. M.H.	D.C. Res. Ohms	Cur. Cap. Ma.	Net
2277	2½	24	150	$.39
2279	5	62	150	.51
2280	10	78	150	.69
2282	60	195	125	.75
2283	80	250	125	.84



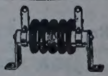
ICA TRANSMITTING R.F. CHOKES

Tapered Sections

Wound on Insulex low-loss core. Has a continuous universal winding in five tapered sections. Designed for maximum impedance in amateur bands from 160 meters downward.

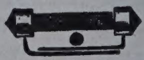
No.	Ind. M.H.	Cur. Ma.	Res. Ohms	Net
266	2.8	1000	5	$1.65
267	5.3	500	12.5	1.50

HEAVY DUTY TRANSMITTING CHOKES



No.	Ind. M.H.	Cur. Cap. Ma.	D.C. Res. Ohms	Net
280	2.5	1000	5	$1.50
278	2.5	500	12	1.35

ICA 2½ and 5 METER R.F. CHOKE



A compact, efficient R.F. choke for use in transmitters and receivers at ultra-high frequencies. Single layer spaced winding on pig-tailed Insulex low-loss form. Small enough to be wired directly into the smallest transceivers. Inductance 5.4 Mic.-Henries; Resistance 0.45 ohms; maximum current 1000 M.A. 5/16" Diameter x 1¾" long.

No. 1645 ....**Net $.30**

ALL PRICES SHOWN ARE DEALER'S NET COST

DE LUXE STREAMLINED PROFESSIONAL RELAY RACKS

Ideal for housing your **Transmitter, P. A. System,** or other **Electronic Equipment,** these large, sturdy cabinets of modern design. Feature rounded vertical front corners and handsome red-striped, chrome-trim at top and bottom.

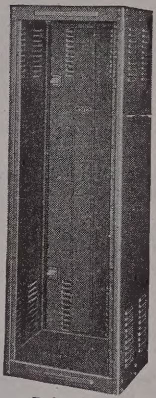
Rugged construction, fabricated from 16-gauge (1/16″) cold rolled steel; the panel mounting supports, which are welded to each side of the cabinet, are of ⅛″ steel, accurately punched to accommodate either **Western Electric** or **Amateur Notched Panels.** The holes are tapped 10-32. Panel mounting supports recessed so that no edges are exposed.

The rear door is hung on loose-joint hinges, and is held securely in place by two snap catches. Door easily removed for repairs. **Interlocking Switch Bracket** provided with each cabinet.

Shipped "knocked down," with hardware for easy assembly. Available in **Black** or **Grey Crackle** finish. When color is not specified, **Black** will be furnished.

Cabinet can be supplied without louvres on one or both sides at no extra cost. This is a desirable feature when two or more cabinets are to be placed side by side. Standard 19″ width panels to be used with these cabinets.

Cat. No.	Height	Width	Depth	Panel Space	Ship. Wt.	Your Cost
CR-1774	42 1/16″	22″	17¼″	36¾″	90 lbs.	$26.10
CR-1771	47 5/16″	22″	17¼″	42″	100 lbs.	31.50
CR-1772	66 9/16″	22″	17¼″	61¼″	135 lbs.	38.10
CR-1773	82 5/16″	22″	17¼″	77″	155 lbs.	45.00


Relay Racks

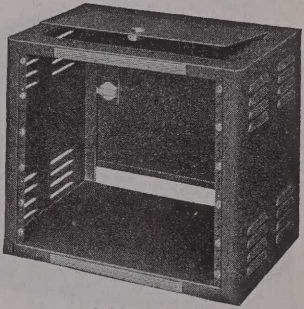
DE LUXE STREAMLINED PROFESSIONAL CABINET RACKS

Builders of Commercial and Amateur **Transmitters, P. A. Systems** and other apparatus requiring one or more chassis and panel units will find this series of modernistic **Cabinets** the most handsome line available.

In keeping with **De Luxe Relay Racks** the front vertical corners are attractively rounded. Top and bottom are trimmed with red-striped chrome-finished moldings. Panels fit into a recess so that no edges are exposed. All **Cabinets** have recessed hinged door on top, provided with a snap catch. The three large sizes have hinged rear doors in addition, making all equipment on shelves readily accessible. Panel mounting holes are accurately drilled and tapped for either **Western Electric** or **Amateur Standard Notched Panels.** The back is terminated two inches above the bottom to give access to various terminals, and to permit switching, keying, and A. C. leads to be brought out. Constructed of 16-gauge (1/16″) thick cold rolled steel, with all joints electrically welded, then smoothly ground. Shipped set up ready for use, in **Black** or **Grey Crackle Enamel** finish. Ample ventilation is possible by louvres and opening in back. Panel mounting screws and cup washers for fastening panels to cabinet are furnished.

THESE CABINETS ARE PROVIDED WITH EXTENDED METAL FEET. CAN BE PLACED ON DESK OR TABLE, WITHOUT INJURING FINISH.

Cat. No.	Height	Width	Depth	Panel Space	Ship. Wt.	Your Cost
CR-1741	10 9/16″	22″	14¾″	8¾″	29 lbs.	$ 9.00
CR-1742	14 1/16″	22″	14¾″	12¼″	32 lbs.	10.95
CR-1739	15 13/16″	22″	14¾″	14″	36 lbs.	13.20
CR-1743	19 5/16″	22″	14¾″	17½″	40 lbs.	14.55
CR-1744	28 3/16″	22″	14¾″	26¼″	50 lbs.	16.80
CR-1745	36 13/16″	22″	14¾″	35″	60 lbs.	18.75

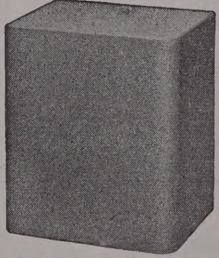

Cabinet Racks

STREAMLINED MULTI-PURPOSE CABINETS

For the thousand-and-one uses which are always turning up in the building of **Electronic Equipment,** or around the **Ham Shack,** we are presenting these two **New Members** of the **Bud** family.

Handsome streamlined metal cabinet finished in **Grey Crackle** Enamel. Rubber feet are fastened to bottom of cabinet so that sharp edges will not injure finish on desk or table.

Cat. No.	Height	Width	Depth	Ship. Wt.	Your Cost
C-1784	4½″	3⅝″	3⅛″	2 lbs.	$1.14
C-1785	4½″	7⅛″	3⅛″	2½ lbs.	1.50


Multi-purpose Cabinets

ALUMINUM RELAY RACK PANELS

Possessing the advantages of lightness and ease of working, these **Aluminum Panels** provide strong and rigid support for all types of relay rack-mounting units. They are made of ⅛″ thick **Aluminum, 19″ long,** and are available in **Black or Grey Crackle** Enamel finish, in either **Amateur or Western Electric Notching. Black Crackle** finish will be furnished unless **Grey** finish is specified on order. Panels 3/16″ thick may be had, if desired, at a 60% advance over the price of the standard ⅛″ panels.

We recommend the stocking of Western Electric Notching, as they will fit all relay racks.

Cat. No.	Height	Ship. Wt. lbs.	Your Cost	Cat. No.	Height	Ship. Wt. lbs.	Your Cost	Cat. No.	Height	Ship. Wt. lbs.	Your Cost
PA-1101	1¾	1	$0.99	PA-1105	8¾	3	$2.46	PA-1109	15¾	5	$4.80
PA-1102	3½	1	1.38	PA-1106	10½	3	3.18	PA-1110	17½	5	5.10
PA-1103	5¼	2	1.74	PA-1107	12¼	4	3.75	PA-1111	19¼	6	5.76
PA-1104	7	2	2.07	PA-1108	14	4	4.29	PA-1112	21	7	6.60

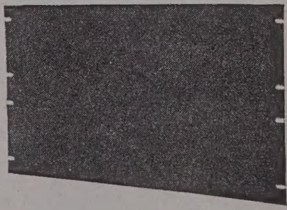
STEEL RELAY RACK PANELS

Made of high grade steel ⅛″ thick, 19″ long, and finished in beautiful baked **Black or Grey Crackle** Enamel, these panels afford rigid support for all types of relay rack units. Available in either **Amateur Notching** (first notch ⅞″ from edge) or **Western Electric Notching** (first notch ¼″ or 1½″ from edge). **Indicate type wanted by using "A" after catalog number for Amateur or "W" for Western Electric. Black Crackle finish** supplied unless **Grey** is specified.

PS-1250	1¾	2	$0.60	PS-1254	8¾	7	$1.05	PS-1258	15¾	12	$1.95
PS-1251	3½	3	.69	PS-1255	10½	8	1.20	PS-1259	17½	13	2.10
PS-1252	5¼	4	.78	PS-1256	12¼	9	1.47	PS-1260	19¼	14	2.25
PS-1253	7	5	.84	PS-1257	14	10	1.68	PS-1261	21	15	2.55

MASONITE RELAY RACK PANELS

Where light, non-magnetic, insulated panels are desirable, this line, made of Tempered Masonite, may be utilized to good advantage. While strong and tough, these panels are readily worked with ordinary wood-working tools. Panels are 3/16″ thick and 19″ long, and are finished in beautiful and durable baked **Black** or **Grey Crackle Enamel. Available ONLY in Amateur Notching. Black** finish will be supplied unless **Grey** is specified.


Rack Panels

PM-1588	1¾	1	$0.42	PM-1592	8¾	2	$0.96	PM-1596	15¾	4	$1.50
PM-1589	3½	1	.54	PM-1593	10½	3	1.08	PM-1597	17½	5	1.74
PM-1590	5¼	2	.69	PM-1594	12¼	3	1.20	PM-1598	19¼	5	1.92
PM-1591	7	2	.78	PM-1595	14	4	1.35	PM-1599	21	6	2.10

PROFESSIONAL RELAY RACKS

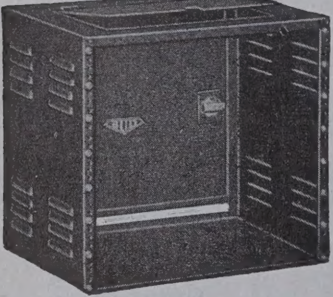
Professional appearance will be added to any **Transmitter, P. A. System** or any **Electronic Equipment** when housed in one of these excellent Cabinet Relay Racks. Complete protection from damage and dust is provided for equipment.

The enclosed rack is substantially constructed from 16-gauge (1/16") cold rolled steel. Panel mounting supports which are welded to the sides are ⅛" thick, and are accurately punched; holes are tapped 10-32. Holes are spaced to accommodate either **Western Electric** or **Amateur Standard Notched Panels.** The panels fit into a recess, so that the edges are not exposed. The removable rear door is provided with two snap catches. An interlock switch bracket is provided with each cabinet.

These Relay Racks are painted in either **Black** or **Grey Crackle** Enamel finish. They are shipped **"Knocked Down,"** supplied with all necessary hardware for assembly. We also supply a sufficient number of 10-32 screws and cup washers for mounting of panels.

	Overall Size			Panel Space			
Cat. No.	Height	Width	Depth	Height	Width	Ship. Wt.	Your Cost
CR-873	42 1/16"	21"	17"	36¾"	19"	90 lbs.	$21.30
CR-874	47 5/16"	21"	17"	42"	19"	95 lbs.	26.10
CR-875	66 9/16"	21"	17"	61¼"	19"	128 lbs.	32.40
CR-884	82 5/16"	21"	17"	77"	19"	144 lbs.	39.30

GENERAL CABINET RACKS



For **Electronic, Amateur** and **Commercial** applications requiring neat housing at reasonable costs, this unusually fine line of cabinets is recommended. Constructed from 16-gauge (1/16") cold rolled steel, all joints welded, and ground smooth. Cabinets shipped set up and ready for use, available in either **Black** or **Grey Crackle** Enamel finish.

Ample ventilation is provided by louvres and opening in back. Hinged rear door with snap catch is furnished on three larger sizes. All others have solid back welded to sides. Hinged top door with snap catch lock is supplied on all cabinets of this line.

These cabinets are designed so that they will accommodate either **Western Electric** or **Amateur Standard Notched** Panels. Screws and cup washers are furnished to fasten panels to cabinets.

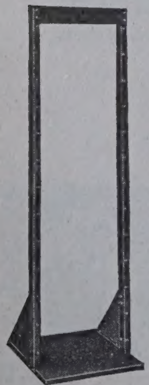
	Overall Size			Panel Space			
Cat. No.	Height	Width	Depth	Height	Width	Ship. Wt.	Your Cost
CR-694	9"	19⅛"	14¾"	8¾"	19"	22 lbs.	$5.82
CR-695	10¾"	19⅛"	14¾"	10½"	19"	24 lbs.	7.35
CR-693	12½"	19⅛"	14¾"	12¼"	19"	27 lbs.	8.40
CR-696	18½"	19⅛"	14¾"	17½"	19"	32 lbs.	10.89
CR-697	27¼"	19⅛"	14¾"	26¼"	19"	44 lbs.	11.85
CR-698	36"	19⅛"	14¾"	35"	19"	55 lbs.	14.28

SMALL CABINET RACK

The long-felt need for a small and inexpensive cabinet rack to house low power transmitters and similar apparatus is filled with the introduction of this new addition to the **Bud** line. This cabinet is constructed to accommodate two panels, one 10½" and one 8¾" high and 16½" wide, and will take chassis up to 8½" deep and 15" wide. The rear of the cabinet is covered by a hinged door with an efficient locking device, and the sides are louvred for ventilation. The entire unit is formed from **Black Crackled** steel and is furnished complete with panels but **Less** chassis. Chassis Nos. CB-665 and CB-666 listed on Page H90 are intended for use with this cabinet.

Cat. No. RC-1749..Ship. Wt. 25 lbs..**Your Cost $9.90**

STANDARD RELAY RACKS



Where a sturdy mounting for a number of panel and chassis units such as in a transmitter, public address system, etc., is desired, allowing complete accessibility to all parts, this line of **Relay Racks** is indispensable. The one-eighth inch steel channels, three inches deep, are held together by angle cross-pieces of the same material. The base design has been improved to incorporate a chassis-type bottom, together with the usual side angles, making the rack stronger and more stable.

These units are intended to accommodate standard 19-inch panels with either **Western Electric** or **Amateur Notching.** Holes are drilled and tapped for 10-32 thread. The finish of these racks is baked **Black Crackle** Enamel, and they are shipped "knocked down." Assembly is very easy, and all necessary nuts, bolts, and washers are included.

The No. RR-1265 **Rack** is a professional heavy duty rack for heavier types of commercial installations. Uprights are heavy channel iron, supported by a heavy ⅜" thick angle-iron base. Finish and drilling same as above.

	Overall Size			Panel Size			
Cat. No.	H	W	D	H	W	Ship.Wt.	Your Cost
RR-1263	35½"	20"	22"	31½"	19"	38 lbs.	$11.61
RR-1264	70½"	20"	22"	66½"	19"	48 lbs.	14.19
RR-1265	72½"	20"	15"	66½"	19"	104 lbs.	26.10

DESK TYPE RELAY RACKS

These small relay racks are perfectly suited for table mounting of low and medium power transmitters, public address systems, and other electronic instruments. Each rack is built around a heavy chassis on which the side uprights mount. This type construction permits the rack to hold great weights. Racks come "knocked down" but are complete with all necessary hardware and are easily assembled. Finish is **Black Crackle** Enamel. Either **Western Electric** or **Amateur Standard** notched panels can be used. Panels set in a recess so that no edges are exposed.

	Overall Size			Panel Size			
Cat. No.	H	W	D	H	W	Ship.Wt.	Your Cost
RR-1248	24"	20⅜"	12"	21"	19"	15 lbs.	$4.80
RR-1249	31"	20⅜"	12"	28"	19"	20 lbs.	6.00

NOTE: H—Denotes Height; D—Depth; L—Length; W—Width.

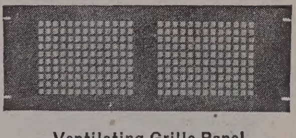
Net

VENTILATING GRILLE PANELS

Made of ⅛" thick Steel. The Grille is stamped into the panel itself, and is recommended for use where additional ventilation is a factor. We also recommend the use of these panels where it is desirable to watch tubes or other equipment while in operation. These Panels furnished in **Black** or **Grey Crackle** finish with **Western Electric Notching only.** Length of Panels 19".

Cat. No.	H In.	Grille Size Inches	Ship. Wt. lbs.	Your Cost
PS-808	5¼	3⅜x14⅜	3½	$1.95
PS-809	7	4⅞x14⅜	4½	2.10
PS-810	8¾	*3⅞x14⅜	6½	2.40
PS-811	10½	*5⅞x14⅜	7½	2.70
PS-812	12¼	*7⅜x14⅜	8½	2.91

* Allows 3½" space at bottom for chassis mounting.

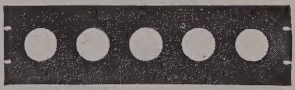


Ventilating Grille Panel

METER PANELS

Both **Masonite** and **Steel** Meter Panels are made of same materials as regular rack panels. Each unit is 5¼" high, 19" wide, and available in either **Black** or **Grey Crackle** finish. Small holes fit all 2" square and round meters, and large holes fit all 3" square and round meters. In ordering metal panels, specify "A" for Amateur or "W" for **Western Electric Notching. Masonite Panels** available **only** in **Amateur Notching. Black Crackle** finish will be supplied unless **Grey** is specified.

Cat. No.	Holes	Diam. of Holes In.	Type Material	Ship. Wt. lbs.	Your Cost
PM-509	3	2$\frac{3}{16}$	Masonite	2	$1.08
PM-510	4	2$\frac{3}{16}$	Masonite	2	1.20
PM-511	3	2$\frac{13}{16}$	Masonite	2	1.08
PM-512	4	2$\frac{13}{16}$	Masonite	2	1.20
PS-440	3	2$\frac{3}{16}$	Steel	4	1.35
PS-441	5	2$\frac{3}{16}$	Steel	4	1.95
PS-442	3	2$\frac{13}{16}$	Steel	4	1.35
PS-443	5	2$\frac{13}{16}$	Steel	4	1.95



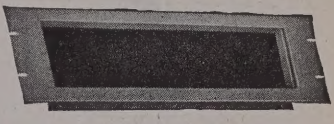
Meter Panel

ENCLOSED METER PANELS

Designed to give maximum protection to meters. The steel panel has a large cut-out, behind which is mounted a blank Masonite sub-panel. This sub-panel has a meter-mounting area of 4⅛" x 15⅛"—sufficient space to mount four 3" meters.

The meters are protected by a glass insert which mounts in slides. Due to danger from breakage during shipment, this glass is **not** supplied with the panel. The glass insert should be cut 16" long x 4⅝" wide and may be cut from any stock thickness up to $\frac{3}{16}$". Finish is either **Black** or **Grey Crackle** Enamel. **Black** will be supplied unless **Grey** is specified. Available in **Amateur Notching Only.** Size of panel: 19" x 5¼".

Cat. No.	Ship. Wt.	Your Cost
PS-439	4 lbs.	$3.96



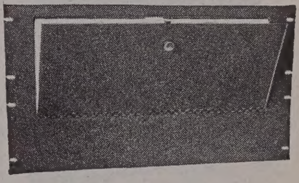
Enclosed Meter Panel

METAL DOOR RACK PANELS

In many rack panel units it is very desirable to have component parts on the chassis (such as tubes, coils, etc.) accessible from the front of the panel as in this manner, changes can be easily and quickly made. To fill this need, Panel No. 615, with door measuring 15⅜" x 6" and Panel No. 616, with door 15⅜" x 7½", have been introduced. Each door is fitted with a nickel-plated knob and snap catch.

Both the above numbers are available in either **Black** or **Grey Crackle** Enamel. **Black** will be supplied unless **Grey** is specified. Available in **Amateur Notching Only.**

Cat. No.	L In.	W In.	Ship. Wt. lbs.	Your Cost
PS-615	19	10½	9	$2.85
PS-616	19	12¼	10	3.27

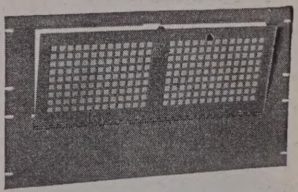


Metal Door Rack Panel

VENTILATED METAL DOOR RACK PANEL

These panels are identical in construction with the Metal Door Rack Panels described above, plus the added advantage of a generous perforated area in the door, providing adequate ventilation for adjacent units. Ventilated Metal Door Panels are available in **Black** or **Grey Crackle** Enamel, in **Amateur Notching Only. Black** finish will be furnished unless **Grey** is specified. Length of panels: 19".

Cat. No.	H In.	Door Height In.	Ship. Wt. lbs.	Your Cost
PS-814	10½	6	8	$3.75
PS-815	12¼	7½	9	4.20

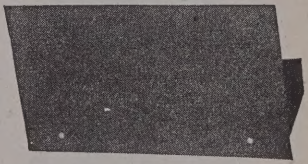


Ventilated Metal Door Rack Panel

METAL PANELS

For general experimental and construction applications, this line of steel panels fills all usual requirements. Finished on both sides in fine durable **Black Crackle** Enamel.

Cat. No.	W In.	L In.	Ship. Wt. lbs.	Your Cost
PS-1200	7	8	1	$0.33
PS-1201	7	10	1	.39
PS-1202	7	12	2	.45
PS-1203	7	14	2	.57
PS-238	7¾	15	2	.60
PS-239	8	10	2	.45
PS-240	8	12	2	$0.57
PS-1204	8	14	2	.60
PS-1205	8	16	2	.66
PS-1187	8	18	3	.72
PS-1188	8	19	3	.84
PS-700	9	15	3	.69



Metal and Masonite Panel

MASONITE PANELS

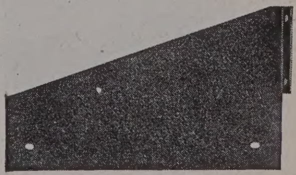
This line is intended for all uses requiring an insulated panel that is easily worked. Made from $\frac{3}{16}$" thick Tempered Masonite and finished in baked **Black Crackle** Enamel.

Cat. No.	W In.	L In.	Ship. Wt. lbs.	Your Cost
PM-607	7	10	1	$0.51
PM-608	7	12	1	.57
PM-609	7	14	1	.63
PM-606	8	10	1	.57
PM-610	8	12	1	$0.63
PM-611	8	14	2	.69
PM-612	8	16	2	.81
PM-613	9	15	2	.84

CHASSIS MOUNTING BRACKETS

In applications where the panel alone has to support the entire weight of a constructed unit, these Mounting Brackets are very essential to insure proper support of the chassis. Formed of heavy gauge **Black Crackled** steel. The panel flange is cut away at the bottom to provide chassis clearance and the chassis is mounted flush against the panel.

Cat. No.	H In.	D In.	Clearance In.	Ship. Wt. lbs.	Your Cost
MB-458	6½	8	3$\frac{1}{16}$	2	$0.66
MB-448	6½	10	3$\frac{1}{16}$	3	.87
MB-459	6½	11	3$\frac{1}{16}$	3	1.02
MB-449	6½	12	3$\frac{1}{16}$	3	1.11
MB-460	6½	13	3$\frac{1}{16}$	3	1.20
MB-450	8½	10	4$\frac{1}{16}$	4	1.29
MB-451	8½	13	4$\frac{1}{16}$	5	1.44



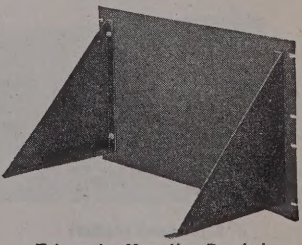
Chassis Mounting Bracket

TRIANGULAR MOUNTING BRACKETS

For panel and chassis assemblies where large weights are not involved, these Triangular Mounting Brackets make convenient supports. Constructed of heavy **Black Crackled** steel.

Cat. No.	H In.	D In.	Ship. Wt. lbs.	Your Cost
MB-1266	5	5	1	$0.57
MB-1267	7	7	2	.69
MB-1268	9	9	2	.81

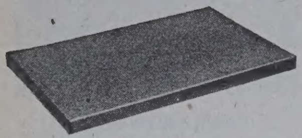
NOTE: H—Denotes Height; D—Depth; L—Length; W—Width.



Triangular Mounting Bracket

Net

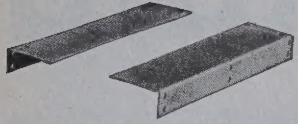
RACK SHELVES


Rack Shelf

Heavy power supplies, modulator units, etc., can be mounted on these rack shelves which are supported in the cabinet by the chassis-supporting angles listed below. They are designed to slide in from the rear of the cabinet. Made of heavy gauge steel and finished in **Black Crackle** Enamel.

Cat. No.	H	L	D	Ship. Wt.	Your Cost
CB-1976	1″	19″	15″	6 lbs.	$2.46
CB-1977	1″	19″	12″	5 lbs.	2.13

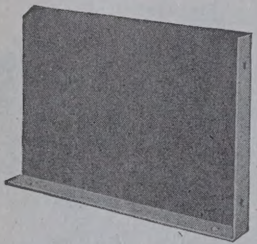
CHASSIS SUPPORTING ANGLES


Chassis Supporting Angles

In a relay rack it is frequently desirable to have some support in addition to the panel for an unusually heavy panel-and-chassis unit. To fill this need, these Supporting Brackets may be screwed on the sides of a relay rack cabinet in such a manner that the chassis may slide and rest on them in much the same way as a desk drawer does. These angles are 12″ long and project 3″ from each side of the cabinet, affording ample support for a standard 17″ width chassis. These brackets are sold in pairs, finished in durable **Black Crackle** Enamel, and come complete with necessary mounting hardware.

Cat. No. SA-1349 Ship. Wt. 4 lbs. **Your Cost $1.08**

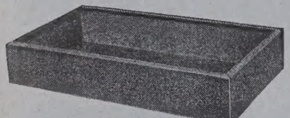
INTERSTAGE SHIELDS


Interstage Shield

These shields find many uses on receiver and transmitter chassis for eliminating interstage coupling and isolating individual circuits. Construction is of 20-gauge steel. Formed angles on front and bottom facilitate mounting on either chassis or panel. Both angles punched with two mounting holes.

Cat. No.	H	D	Ship. Wt.	Your Cost
IS-1246	5½″	7″	1 lb.	$0.27
IS-1247	5½″	10″	1 lb.	.33
IS-1245	6½″	10″	1 lb.	.36

STEEL CHASSIS BASES


Steel Chassis Base

These rugged steel chassis are made from one piece of steel, and all corners are spot-welded. The sides are folded over on the bottom for additional strength, and this also permits bottom plates to be attached to the chassis if desired. These bases are furnished in either **Black Crackle** Enamel or **Electro-zinc** Plated Finish.

Black Crackle Cat. No.	Zinc Plated Cat. No.	D In.	W In.	H In.	Metal Ga.	Ship. Wt. lbs.	Your Cost
CB- 628	CB- 629	5	7	2	20	2	$.54
CB- 644	CB- 645	5	9½	2½	20	2	.63
CB- 788	CB- 776	5	9½	1½	20	2	.57
CB- 604	CB- 605	5	10	3	20	2	.75
CB- 789	CB-1191	7	7	2	20	2	.69
CB- 790	CB-1192	7	9	2	20	2	.75
CB- 791	CB-1193	7	11	2	20	2	.81
CB- 792	CB- 793	7	12	3	20	3	.96
CB- 646	CB-1194	7	13	2	20	3	.90
CB- 647	CB-1198	5	13½	2½	20	2	.90
CB- 649	CB-1189	7	15	3	20	3	1.11
CB- 665	CB- 666	8½	15	3	20	3	1.17
CB-1068	CB-1066	4	17	3	20	3	.93
CB- 648	CB-1199	7	17	2½	20	4	1.08
CB- 701	CB- 702	8	10	2½	20	3	.99
CB- 703	CB- 704	8	12	2½	20	3	1.05
CB- 650	CB- 774	8	17	2	20	4	1.20

Black Crackle Cat. No.	Zinc Plated Cat. No.	D In.	W In.	H In.	Metal Ga.	Ship. Wt. lbs.	Your Cost
CB- 651*	CB- 775*	8	17	3	20	5	$1.23
CB- 652	CB-1195	10	12	3	20	5	1.20
CB- 653	CB- 779	10	14	3	20	5	1.23
CB- 654*	CB- 769*	10	17	2	20	5	1.17
CB- 636*	CB- 637*	10	17	3	20	6	1.08
CB- 655*	CB-1196*	10	17	3	18	6	1.32
CB- 656	CB-1197	10	23	3	18	7	1.68
CB- 657*	CB- 770*	11	17	2	18	5	1.50
CB- 658*	CB- 771*	11	17	3	18	6	1.68
CB- 663*	CB- 661*	12	17	2	18	5	1.56
CB- 664*	CB- 662*	12	17	3	18	6	1.68
CB- 659*	CB- 772*	13	17	2	18	6	1.80
CB- 660*	CB- 773*	13	17	3	18	6	2.07
CB- 640*	CB- 641*	10	17	4	18	7½	1.74
CB- 642*	CB- 643*	13	17	4	18	8½	2.34
CB- 623	CB- 624	10	17	5	18	8½	2.64
CB- 625	CB- 626	13	17	5	18	9½	2.97

* Indicates chassis which are punched to accommodate Chassis Mounting Brackets.

HEAVY DUTY CHASSIS BASES

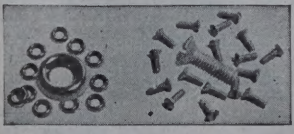
(FURNISHED WITH BOTTOM PLATES)

Heavy Duty Chassis Base

The construction of this line of bases is identical with the line of regular Steel Chassis Bases with the exception that they are formed from heavy 1/16″ steel and intended for applications requiring unusual sturdiness and where large weights are involved. All sizes are available in either **Black Crackle** or **Electro-zinc** Plated Finishes and come complete with bottom plates and mounting screws.

Black Crackle Cat. No.	Zinc Plated Cat. No.	D In.	W In.	H In.	Ship. Wt. lbs.	Your Cost
CB-1757	CB-1764	8	17	2	8	$1.98
CB-1758	CB-1765	8	17	3	8½	2.19
CB-1759	CB-1766	11	17	2	10	2.19
CB-1760	CB-1767	11	17	3	11	2.40
CB-1761	CB-1768	13	17	2	11	2.55
CB-1762	CB-1769	13	17	3	12	2.79
CB-1763	CB-1770	13	17	4	13	3.12

SCREWS AND WASHERS—FOR RELAY RACKS


Screws and Washers

These machine screws are ⅝″ long and threaded 10-32. Made from steel with oval head and finished in nickel plate. The cup washers are steel and are nickel plated. Made to fit 10-32 machine screws with either oval or flat heads.

Cat. No.	Description	Ship. Wt. 100	Your Cost
RS-7140	Screw	2 lbs.	$0.54 per 100
RW-7161	Washer	2 lbs.	.54 per 100

NOTE: H—Denotes Height; D—Depth; L—Length; W—Width.

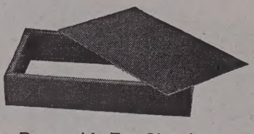
REMOVABLE TOP CHASSIS

This new chassis design will be welcomed by amateurs and experimenters who desire to make periodic revisions and changes in their equipment without wasting any more material than is absolutely necessary. These chassis are so constructed that when a parts layout change is desirable, the old top is simply unscrewed and a new top is placed on the old frame. This makes, in effect, an entirely new chassis at less than half the cost of a complete chassis. The removable top feature also greatly simplifies the working of the chassis as all holes, cuts, etc., can be made in the flat top without interference from the sides.

Black Crackle Cat. No.	Zinc Plated Cat. No.	D In.	W In.	H In.	Ship. Wt. lbs.	Your Cost
CB-196	CB-193	10	17	3	6	$1.47
CB-197	CB-194	10	17	4	7½	1.98
CB-251	CB-210	13	17	3	7½	2.19
CB-252	CB-211	13	17	4	8½	2.73

Replacement Chassis Tops Only

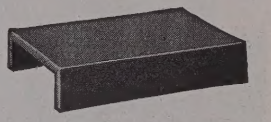
Black Crackle Cat. No.	Zinc Plated Cat. No.	D In.	W In.	H In.	Ship. Wt. lbs.	Your Cost
RT-198	RT-195	10	17	$\frac{1}{16}$	3½	.72
RT-253	RT-212	13	17	$\frac{1}{16}$	4	.93


Removable Top Chassis

OPEN END CHASSIS

Primarily intended to be used with the various sizes and styles of **Bud** metal cabinets, these light weight chassis are likewise ideal for any type of small built-up unit such as a record amplifier, code oscillator, etc. U-shaped construction is used with ends folded over ⅜" for additional strength. Finish is **Electro-zinc** Plating.

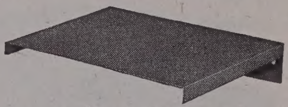
Cat. No.	D In.	W In.	H In.	Fits Cab. No.	Ship. Wt. lbs.	Your Cost
CB- 38	7	6	2	C-1584	1½	$0.42
CB- 30	5	7	1½	....	1½	.39
CB- 41	7	7	1½	C-973	1½	.45
CB- 39	7	8	2	C-1585	1½	$0.54
CB-996	5½	9	1½	C-993	1½	.42
CB-976	7½	9	1½	C-999 & C-1746	2	.57
CB- 40	7	10	2	C-1586	2	.57
CB-997	7	11	1½	C-994 & C-1747	2	.60
CB-998	7	13	1½	C-995 & C-1748	2½	.69
CB- 34	10¾	14	2	C-975A	3½	1.05
CB- 35	7¾	15	2	C-1190A	2½	.93


Open End Chassis

CHASSIS DECKS

This line is intended for the Carrying Case and Utility Cabinet series of housings. Each unit is folded over 1½" on the front and ½" on the side and made from Zinc Plated steel. These decks are also useful for interstage shielding and supports in regular panel-and-chassis layouts.

Cat. No.	W In.	D In.	Fits Cab. No.	Ship. Wt. lbs.	Your Cost
CB-522	4¾	5½	CU-1098	1	$0.33
CB-523	4¾	4½	CU-1099	1	.30
CB-524	6¾	6½	CU-879	1	$0.42
CB-525	5¾	5½	CU-1124 & CC-1096	1	.36
CB-526	8¾	7½	CU-880	1	.54
CB-527	9¾	7½	CU-881	2	.57
CB-528	7¾	6½	CU-882	1	.48
CB- 36	6½	6½	CC-1097	1	.42
CB- 37	8¾	6½	CC-1100	1	.54

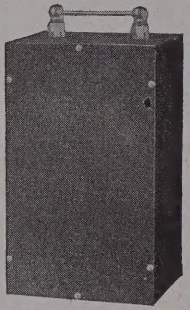

Chassis Deck

METAL CARRYING CASES

Designed primarily for all types of small portable equipment, this line of Carrying Cases finds many uses in housing transceivers, field strength meters, oscilloscopes, test oscillators, etc. An easy-grip handle is fitted to the top. The removable front and rear panels are fastened to the case by means of 6-32 screws. The steel welded construction assures maximum strength at a minimum weight—very important for portable work. Finish is **Black Crackle.**

The line of Chassis Decks contains an appropriate size for each of these cabinets.

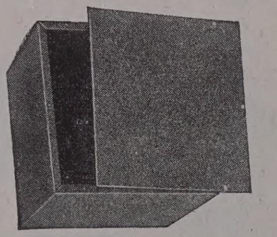
Cat. No.	D In.	W In.	H In.	Ship.Wt. lbs.	Your Cost
CC-1096	6	7	12	5	$2.10
CC-1097	7	7¾	15	7	2.40
CC-1100	7	10	10	6	2.25


Metal Carrying Case

METAL UTILITY CABINETS

The construction of this line of cabinets is identical with the Metal Carrying Cases with the exception that the handle is omitted. The large number of sizes available makes this line useful for all sorts of **Electronic Equipment, Monitors, Frequency Meters, etc.** A new feature now enables us to tap the flanges to which the panels are fastened, permitting us to use a 6-32 screw instead of the self-tapping screw previously used.

Cat. No.	D In.	W In.	H In.	Ship.Wt. lbs.	Your Cost
CU- 883	2	4	4	1	$0.66
CU- 728	3	5	4	2	.72
CU- 729	4	5	6	3	.90
CU-1098	6	6	6	3	.90
CU-1099	5	6	9	3	1.29
CU- 879	7	8	10	5	1.65
CU-1124	6	7	12	5	1.74
CU- 880	8	10	10	7	2.04
CU- 881	8	11	12	8	2.19
CU- 882	7	9	15	9	2.40

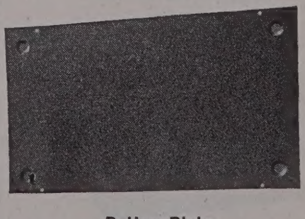

Metal Utility Cabinet

BOTTOM PLATES

(FIT AMPLIFIER FOUNDATIONS AND STANDARD CHASSIS)

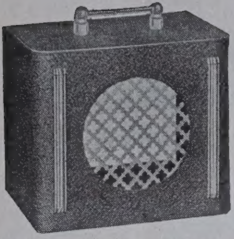
Bud Bottom Plates make excellent dust covers, and protect all wiring and component parts under the chassis. Each plate has four formed bosses which prevent sharp edges from scratching the table top. These covers are especially necessary in shielding R. F. shelves from audio shelves in rack and panel constructed transmitters. Supplied in **Black Crackle** or **Zinc-plated** finishes to match the chassis.

Black Crackle Cat. No.	Zinc Plated Cat. No.	W In.	L In.	Ship. Wt. lbs.	Your Cost
BP- 705	BP- 706	5	7	1	$0.30
BP- 680	BP- 667	5	9½	1	.33
BP- 536	BP- 538	5	10	1	.36
BP- 681	BP- 668	7	7	1	.39
BP- 682	BP- 669	7	9	1	.39
BP- 683	BP- 670	7	11	1	.45
BP- 537	BP- 539	7	12	1	.51
BP- 684	BP- 671	7	13	1	.51
BP- 685	BP- 672	5	13½	1	.39
BP- 516	BP- 513	7	15	2	.57
BP- 541	BP- 540	8½	15	2	.60
BP-1069	BP-1067	4	17	2	$0.42
BP- 686	BP- 673	7	17	2	.60
BP- 707	BP- 708	8	10	2	.48
BP- 709	BP- 710	8	12	2	.51
BP- 687	BP- 674	8	17	2	.60
BP- 688	BP- 675	10	12	2	.60
BP- 517	BP- 514	10	14	2	.63
BP- 689	BP- 676	10	17	2	.72
BP- 690	BP- 677	11	17	2	.78
BP- 691	BP- 678	12	17	3	.87
BP- 692	BP- 679	13	17	3	.93
BP- 518	BP- 515	10	23	3	.99


Bottom Plate

NOTE: H—Denotes Height; D—Depth; W—Width; L—Length.

STREAMLINED SPEAKER CASES

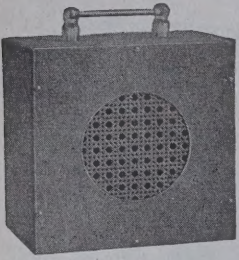


Streamlined Speaker Case

Since many communications receivers are furnished with external and unmounted speakers, this line of speaker housings was introduced to provide an attractive enclosure for such units. In addition, these cabinets are ideally suited for many more types of installations where speakers must be placed in a conspicuous place. Each cabinet has the front vertical corners rounded, and the speaker opening is covered with an artistic metal grille. Two strips of chromium trim are located vertically on each side of the speaker opening, and each case is furnished with a carrying handle which may be removed if desired. These cases are available with either **Black** or **Grey Crackle** finish. **Black** will be supplied unless **Grey** is specified.

Cat. No.	Hole Size In.	Speaker Size In.	H In.	W In.	D In.	Ship. Wt. lbs.	Your Cost
CS-1935	4¾	6	8	9	6	5	$2.82
CS-1936	6½	8	9¾	11	7	6½	3.66
CS-1937	8 13/16	10	11½	13	8	10	4.80
CS-1938	11	12	13½	15	8	12½	6.54

GENERAL SPEAKER CABINETS

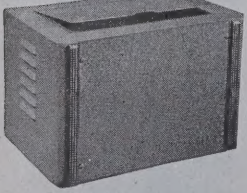


General Speaker Cabinet

In making permanent or portable public address installations, this line of speaker cabinets will be found very useful. Construction is of heavy cold rolled steel. A carrying handle is attached to each cabinet for portable purposes. Finished in **Black Crackle** Enamel.

Cat. No.	Hole Size In.	Speaker Size In.	H In.	W In.	D In.	Ship. Wt. lbs.	Your Cost
CS-471	4¾	6	9	9	6	7	$2.70
CS-472	6½	8	11	11	7	9	3.30
CS-473	8 13/16	10	13	13	8	11	4.20
CS-474	11	12	15	15	8	16	5.40

STREAMLINED CABINETS



De Luxe Streamlined Cabinet

This latest development in housings for receivers, electronic instruments, etc., is this new line of metal cabinets. Their distinctive features are the rounded front vertical corners and the recessed hinged tops. These two factors make a unit built in one of these cabinets very modern in appearance. All parts are completely accessible. The panel of each cabinet is removable and fits flush with the rounded corners. The rear of the cabinet is stopped 2" above the bottom, allowing all necessary leads to the chassis to be readily brought out without drilling the cabinet itself. Both sides are louvred for ventilation, and the bottom of each cabinet has four embossed feet. These cabinets are furnished in **Black Crackle** Enamel finish. **Suitable Chassis may be found under the listing of Open End Chassis on Page H-91.**

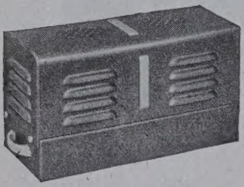
Cat. No.	W Panel In.	W In.	Ship. Wt. lbs.	Your Cost
C-1746	10	12½	8	$2.73
C-1747	12	14½	8½	3.15
C-1748	14	16½	9½	3.60

DE LUXE STREAMLINED CABINETS

These cabinets are identical with those listed above, except that they have a ½" vertical chrome strip at each side of the panel, and are supplied in **Grey Crackle** Enamel **only.**

Cat. No.	W Panel In.	W In.	Ship. Wt. lbs.	Your Cost
C-1781	10	12½	8	$3.60
C-1782	12	14½	8½	3.99
C-1783	14	16½	9½	4.35

STREAMLINED AMPLIFIER FOUNDATIONS



Streamlined Amplifier Foundation

The genuine beauty of these new Amplifier Foundations can be appreciated only after they have been seen. Intended to house public address amplifiers, speech amplifiers, and similar apparatus, these units present a handsome appearance heretofore not available for such apparatus.

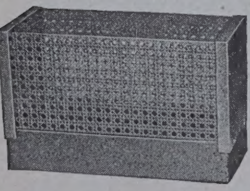
Each of these foundations consists of a standard chassis on which is mounted a removable cover held on by chromium plated knurled screws. This cover has the front and rear horizontal corners rounded; sides and ends are attractively louvred; and top contains grilled cutouts. Chromium trim is used on top and sides, and chromium handles are used on ends of chassis. All chassis are 3" high, and all units are 9" overall height.

Standard finish for this series is either **Black** or **Grey Crackle** Enamel. **Black** will be supplied unless **Grey** is specified.

BOTTOM PLATES TO FIT THESE FOUNDATIONS CAN BE FOUND ON PAGE H-91.

Cat. No.	W In.	D In.	Ship. Wt. lbs.	Your Cost
CA-1750	10 1/16	5	6	$2.91
CA-1751	12 1/16	7	7	3.45
CA-1752	17 1/16	7	10	4.20
CA-1753	17 1/16	10	11	4.80

AMPLIFIER FOUNDATIONS

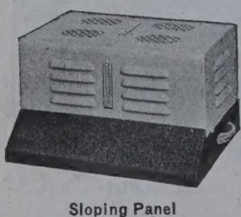


Amplifier Foundation

Almost all types of speech and amplifier equipment are readily adapted to this very neat line of ventilated housings. Each unit consists of a regular chassis on which is attached the shield cover. This shield cover has cane design sides and top and solid ends, assuring strong construction and, at the same time, adequate protection and ventilation. Material used is cold rolled steel, **Black Crackled**, and all joints are spot welded.

Cat. No.	H In.	W In.	D In.	H Chass. In.	Ship. Wt. lbs.	Your Cost
CA- 699	8 5/16	9⅝	5⅛	2½	4	$1.80
CA-1125	8 5/16	13⅝	5⅛	2½	5	2.16
CA-1126	8 5/16	17⅛	7⅛	2½	7	2.70
CA-1127	8 13/16	17⅛	10⅛	3	10	3.30
CA-1128	8 13/16	12⅛	10⅛	3	8	2.91

SLOPING PANEL AMPLIFIER FOUNDATIONS



Sloping Panel Amplifier Foundation

These foundations add a real "Commercial" appearance to any amplifier. The 4" sloping front on the amplifier chassis provides adequate space and easy visibility for controls and indicators.

Each foundation consists of a sloping front chassis on which is mounted a removable top cover. The top horizontal corners of this cover are rounded and the sides and ends are louvred. The top contains grilled cutouts for adequate ventilation. This cover is attractively finished with red striped chromium trim. Chromium handles are placed on both ends of the chassis. All chassis are 3½" high and all units are 9½" over-all height.

The appearance of these foundations is further enhanced by the two-tone finish. The cover is finished in **Grey Crackle** Enamel and the chassis is finished in **Black Crackle** Enamel. Bottom plates to fit these foundations are listed on Page H-91.

Cat. No.	D of Top In.	Overall D In.	Overall W In.	Ship. Wt. lbs.	Your Cost
CA-1980	5	8	10 1/16	6½	$3.57
CA-1981	7	10	12 1/16	8	4.20
CA-1982	7	10	17 1/16	11	4.80
CA-1983	10	13	17 1/16	13	5.40

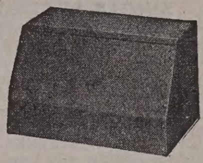
NOTE: H—Denotes Height; D—Depth; L—Length; W—Width.

SLOPING PANEL CABINETS

Excellent for housing frequency meters, modulation indicators, field strength meters, laboratory or test equipment, and desk control units. The entire front panel is removable so that a chassis can be attached to the lower part of the panel. The chassis, with panel attached, can be slid into the cabinet from the front. The rear panel is adequately punched for ventilation and has an opening at the bottom in order to allow connections to be made directly to the rear of the chassis. All cabinets are finished in **Black Crackle Enamel.**

The chassis to fit these cabinets are illustrated on pages H-90 and H-91 and are sold separately.

Cat. No.	H In.	W In.	D In.	Fits Chassis In.	Ship. Wt. lbs.	Your Cost
C-1584	6½	$7\frac{1}{16}$	7¼	7x 6x2	4	$2.40
C-1585	6½	$9\frac{1}{16}$	7¼	7x 8x2	4½	2.70
C-1586	6½	$11\frac{1}{16}$	7¼	7x10x2	5	3.00
C-1892	8	$13\frac{1}{16}$	8½	8x12x2½	9	3.60
C-1893	10	$18\frac{1}{16}$	10½	10x17x3	14	4.95

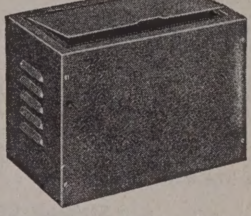

Sloping Panel Cabinet

INSTRUMENT AND RECEIVER CABINETS

Recent revisions and improvements in the entire line of BUD cabinets have made this series of housings the finest available in both appearance and utility. Each cabinet has an evenly recessed hinged cover with convenient finger lift, and the panel on the front of each cabinet is readily attached with self-tapping screws. Ample louvres are provided on each side for ventilation and all corners are reinforced and spot welded to assure ruggedness. Four embossed feet on bottom of each unit prevent scratching of table, etc., and all cabinets are finished in durable **Black Crackle Enamel.** Prices include panel but do NOT include chassis.

A suitable chassis for each cabinet will be found in the listing of Open End Chassis on Page H-91.

Cat. No.	H In.	W In.	D In.	Ship. Wt. lbs.	Your Cost
C- 973	7	8	7½	4	$2.10
C- 993	7	10	6	5	2.10
C- 994	7	12	7½	6	2.40
C- 995	7	14	7½	7	2.55
C- 9[illegible]9	7	10	8	7	2.40
C-1190	8	16	8	9	4.35
C- 975	9	15	11	11	4.68


Instrument and Receiver Cabinet

STREAMLINED UTILITY CABINETS

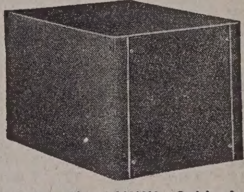
Featuring ease of assembly and attractive appearance, these Streamlined Utility Cabinets are adaptable to a variety of applications. The bottom of the cabinet is removable, allowing easy access to the under-chassis wiring without removing the chassis from the cabinet.

All cabinets are supplied complete with chassis. The chassis is designed to occupy the entire width of the cabinet, even though the front vertical corners of the cabinet are rounded. Finish on the cabinet is **Black Crackle Enamel.** The chassis is Electro-zinc plated.

On Type "A," only the back panel and bottom plate are removable. Sides are NOT louvred.

On Type B," both the front and back panels and bottom plate are removable.

Cat. No.	H In.	W In.	D In.	Chassis Height In.	Type	Approx. Ship. Wt. lbs.	Your Cost
CU-1990	6	5	4	1½	A	4	$1.80
CU-1991	6	6	6	1½	A	4	2.10
CU-1992	6	8	6	1½	A	5	2.31
CU-1993	7	10	7	2	B	5	3.00
CU-1994	7	12	8	2	B	6	3.30


Streamlined Utility Cabinet

STREAMLINED METER CASES

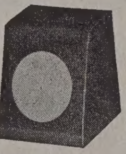
Designed for all applications requiring a modern, streamlined meter case. All cases have a sloping front with the top corner rounded and are finished in **Black Crackle Enamel.** Overall size: 4" deep x 4½" high x 4" wide.

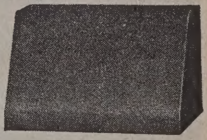
Cat. No.	Hole Diam. In.	Meter Size In.	Ship. Wt. lbs.	Your Cost
CM-1965	$2\frac{3}{16}$	2	1½	$0.99
CM-1966	$2\frac{13}{16}$	3	1½	.99

Sloping Panel UTILITY BOXES

Numerous uses. Made similar to meter cases. Black Crackle Enamel Finish.

Cat. No.	H In.	W In.	D In.	Ship. Wt. lbs.	Your Cost
C-1578	4¼	4	4	1¼	$0.75
C-1579	4¼	5	4	1¼	.90
C-1580	4¼	6	4	1½	1.05
C-1581	4¼	7	4	2	1.20


Streamlined Meter Case


Sloping Panel Utility Box

UTILITY METER CASES

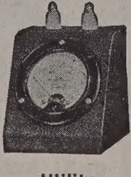
These metal meter cases have been designed to provide a convenient and safe means of making portable instruments out of any of the popular 2" and 3" square or round meters. Cases have a sloping front and are finished in **Black Crackle Enamel.** They are provided with two ceramic feed-through insulators. Size: 4" deep, 4¼" high, and 4" wide.

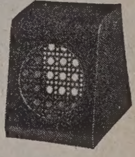
Cat. No.	Hole Diam. In.	Meter Size In.	Ship. Wt. lbs.	Your Cost
CM-1241	$2\frac{3}{16}$	2	1½	$1.05
CM-1242	$2\frac{13}{16}$	3	1½	1.05

MIDGET SPEAKER CASES

A safe, convenient housing for midget 2" and 3" speakers. Similar in construction to the Streamlined Meter Cases except that the hole is covered with cane design grille. Size: 4" wide, 4" deep and 4½" high. The finish is **Black Crackle Enamel.**

Cat. No.	Hole Diam. In.	Meter Size In.	Ship. Wt. lbs.	Your Cost
CS-1685	$2\frac{3}{16}$	2	1½	$0.96
CS-1686	$2\frac{13}{16}$	3	1½	.96


Utility Meter Case

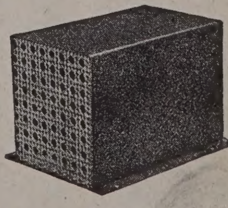

Midget Speaker Case

BOX SHIELD

This shield will find many uses: shielding power transformers and chokes, and for covering and protecting various other components in power supplies, transmitters, receivers and other electronic units.

Top and sides are one-piece steel. No. BS-1244, illustrated in the margin, has perforated steel ends for ventilation; BS-1891 has solid ends. Flanges at bottom provide for mounting. Finished in **Black Crackle Enamel.**

Cat. No.	Ends	H In.	D In.	W In.	Approx. Ship. Wt. lbs.	Your Cost
BS-1244	Ventilated	5	4½	7½	2	$.90
BS-1891	Solid	5	4½	7½	2	.90


Box Shield

NOTE: H—Denotes Height; D—Depth; L—Length; W—Width.

GIANT TRANSMITTER CONDENSERS

SINGLE SECTION

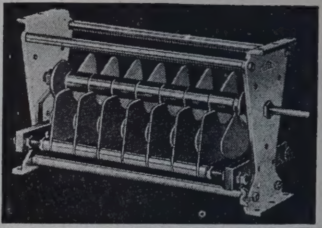
Modern design, plus precision production methods, makes BUD GIANT TRANSMITTER CONDENSERS the deliberate choice of critical engineers for use in such applications as broadcast transmitters, high-power trans-oceanic communications equipment, and many other types of highly specialized electronic devices.

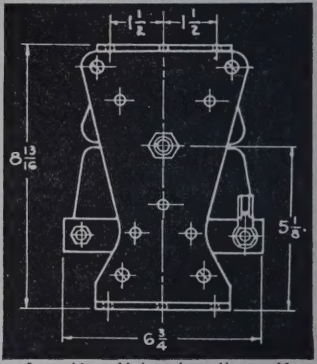
BUD GIANT TRANSMITTER CONDENSERS are built into a stiff, sturdy frame consisting of 3/16″ thick aluminum end plates tied together by ⅝″ diameter duraluminum rods. Formed brackets at top and bottom of end plates provide the means for mounting these units, and permit the placing of associated inductances directly on the condenser.

Rotor and stator plates are accurately stamped from 0.064″ thick highly polished aluminum with all edges rounded to minimize corona loss and danger of peak-voltage flash-over. The plates are separated by accurately machined duraluminum spacers which insure a constant air-gap throughout the entire length of the condenser.

The large two-finger rotor-contact spring, made from silver plated brass, assures positive contact with noise-free operation. Steatite bars insulate the stator, and are placed well outside the electrostatic field to keep dielectric losses at a minimum.

BUD GIANT TRANSMITTER CONDENSERS are made in a variety of capacities, with plate spacings for various voltages. See table following. Other technical data will be found in drawings in margin of this page.





DUAL SECTION

These GIANT DUAL-SECTION TRANSMITTER CONDENSERS are, in every detail, identical in quality with the GIANT SINGLE-SECTION TUNING CONDENSERS described above, and have the same general constructional features.

The tie-rods in the frame of these split-stator units are insulated from the end-plates, eliminating the possibility of closed loops in the frame.

The rotor-contact consists of four fingers made from silver plated spring brass, placed in the center of the rotor assembly under heavy spring tension. This construction reduces series resistance and improves the efficiency of the unit at the higher frequencies.

When these dual condensers are used in regular split-stator circuits, the capacity is reduced to one-half the listed value; the voltage ratings, however, are doubled.

SINGLE SECTION

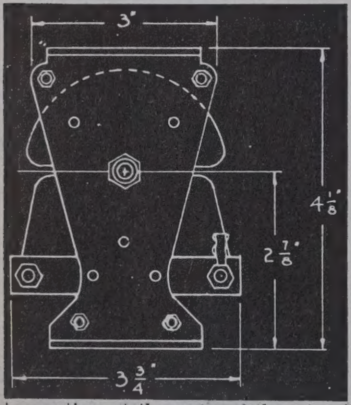
Cat. No.	Max. Cap. Mmfd.	Min. Cap. Mmfd.	No. of Plates	Air Gap	Mtg. Hole Spcg.	Length Overall	Your Cost
GC-1800	195	24	15	.250″	8½″	12⅜″	$24.00
GC-1801	345	32	27	.250″	12¼″	16⅛″	33.60
GC-1802	530	48	41	.250″	16⅝″	20½″	45.60
GC-1803	55	19	7	.500″	7½″	11⅜″	19.20
GC-1804	95	25	15	.500″	12″	15⅞″	28.20
GC-1805	150	33	21	.500″	15⅜″	19¼″	32.40
GC-1806	255	52	35	.500″	23¼″	27⅛″	45.00
GC-1807	50	22	9	.750″	10⅝″	14½″	22.20
GC-1808	75	27	13	.750″	13⅞″	17¾″	27.00
GC-1809	110	40	19	.750″	18¾″	22⅝″	31.20
GC-1810	160	50	29	.750″	26⅞″	30¾″	43.20
GC-1811	55	30	11	1.000″	14¾″	18⅝″	25.80
GC-1812	85	40	17	1.000″	21⅛″	25″	33.60
GC-1813	105	45	23	1.000″	27½″	31⅜″	40.80

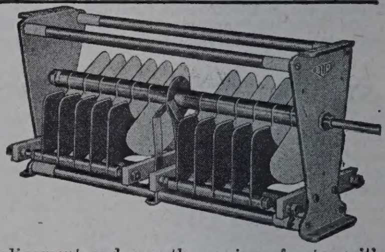
DUAL SECTION

Cat. No.	Per Section Max. Cap. Mmfd.	Per Section Min. Cap. Mmfd.	No. of Plates	Air Gap	Mtg. Hole Spcg.	Length Overall	Your Cost
GC-1815	110	15	9	.250″	11 1/16″	15″	$32.40
GC-1816	215	23	17	.250″	16 1/16″	20″	45.00
GC-1817	320	30	25	.250″	21 1/16″	25″	57.00
GC-1818	55	18	7	.500″	13¾″	17 11/16″	31.20
GC-1819	80	22	11	.500″	18¼″	22 3/16″	38.40
GC-1820	110	25	15	.500″	22¾″	26 11/16″	45.60
GC-1821	30	15	5	.750″	13½″	17 7/16″	28.80
GC-1822	52	20	9	.750″	20″	23 15/16″	37.80
GC-1823	70	25	13	.750″	26½″	30 7/16″	43.20
GC-1824	35	18	7	1.000″	19¾″	23 11/16″	36.00

NOTE: We are equipped to make up these condensers in special capacities and spacings other than those listed above, on order.

MASTER TRANSMITTING CONDENSERS





SINGLE SECTION

Each condenser is built in a rigid and sturdy frame consisting of two end-plates which are made from highly polished ⅛″ thick aluminum and which are tied together with four 5/16″ diameter tie-rods. The end-plates have formed angles on top and bottom to facilitate mounting and to enable the associated inductance to be attached directly to the condenser itself.

The rotors and stators are assembled with plates made from 0.051″ thick aluminum on which the edges have been rounded and highly polished. These plates are separated by accurately machined spacers. Large surface cone bearings assure proper alignment and smooth running of rotor with correct tension. Laminated, silver plated phosphor bronze wiper springs are placed at each end of the condenser bracket to assure positive rotor contact and noise-free operation. The stator assembly is insulated from the unit by large Steatite bars which are placed outside the electro-static field. Rotor shaft is ¼″ diameter.

DUAL SECTION

This series offers the last word in variable air capacitors for high and ultra-high frequency applications. While the general style and construction is identical with the single Master units, all tie-rods in this series are insulated by glazed Steatite pillars, thus completely eliminating all closed metallic loops in the condenser frame. A special outstanding feature, developed by BUD engineers, is that of placing the positive double wiping silver plated rotor contact between the two sections at the center of the rotor. These features eliminate the majority of difficulties encountered in ultra-high frequency equipment due to parasitics, circulating currents, neutralization trouble, and permits perfect circuit balance.

DUAL SECTION

Cat. No.	Per Section Max. Cap. Mmfd.	Per Section Min. Cap. Mmfd.	No. of Plates	Air Gap	Mtg. Hole Spcg.	Length Overall	Your Cost
BC-1620A	80	9	7	.070″	5 17/32″	7 5/32″	$10.80
BC-1621A	100	10	9	.070″	6 1/32″	7 21/32″	11.61
BC-1622A	150	12	13	.070″	6 31/32″	8 19/32″	12.57
BC-1623A	250	15	21	.070″	8 29/32″	10 17/32″	14.70
BC-1624A	40	7	5	.100″	5 5/16″	6 15/16″	10.80
BC-1625A	55	8	7	.100″	5 29/32″	7 17/32″	11.40
BC-1626A	70	9	9	.100″	6½″	8⅛″	12.90
BC-1627A	100	13	13	.100″	7 23/32″	9 11/32″	13.50
BC-1628A	150	17	17	.100″	8 29/32″	10 17/32″	14.10
BC-1639A	200	20	23	.100″	10 11/16″	12 5/16″	14.70
BC-1635A	25	9	5	.200″	6 13/32″	8 1/32″	12.30
BC-1636A	35	12	7	.200″	7 13/32″	9 1/32″	13.50
BC-1637A	50	13	11	.200″	9 13/32″	11 1/32″	14.01
BC-1638A	75	16	15	.200″	11 13/32″	13 1/32″	15.90
BC-1633A	100	20	21	.200″	14 13/32″	16 1/32″	17.40
BC-1634A	50	15	13	.300″	12 13/16″	14 7/16″	14.70

SINGLE SECTION

Cat. No.	Max. Cap. Mmfd.	Min. Cap. Mmfd.	No. of Plates	Air Gap	Mtg. Hole Spcg.	Length Overall	Your Cost
BC-1600	40	7	5	.100″	2 29/32″	4 17/32″	$ 5.31
BC-1601	55	8	7	.100″	3 7/32″	4 27/32″	5.85
BC-1602	70	9	9	.100″	3½″	5⅛″	6.30
BC-1603	100	13	13	.100″	4⅛″	5¾″	6.60
BC-1604	150	17	17	.100″	4 23/32″	6 11/32″	6.93
BC-1605	250	22	29	.100″	6½″	8⅛″	7.95
BC-1606	340	27	39	.100″	8″	9⅝″	9.48
BC-1607	25	10	5	.200″	3 5/16″	4 15/16″	5.94
BC-1608	35	11	7	.200″	3 13/16″	5 7/16″	6.30
BC-1609	50	13	11	.200″	4 13/16″	6 7/16″	6.66
BC-1610	75	16	15	.200″	5 13/16″	7 7/16″	7.20
BC-1611	100	20	21	.200″	7 5/16″	8 15/16″	7.65
BC-1612	145	35	29	.200″	9 5/16″	10 15/16″	9.15
BC-1613	35	14	9	.300″	5⅛″	6¾″	6.81
BC-1614	55	18	15	.300″	7 7/32″	8 27/32″	7.95
BC-1615	75	21	21	.300″	9 5/16″	10 15/16″	9.12
BC-1616	100	28	29	.300″	12⅛″	13¾″	9.90
BC-1617	30	15	9	.375″	5 23/32″	7 11/32″	7.20
BC-1618	50	22	15	.375″	8¼″	9⅞″	8.34
BC-1619	75	28	25	.375″	12½″	14⅛″	10.50

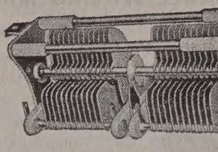
BUD JUNIOR SINGLE SECTION CONDENSERS

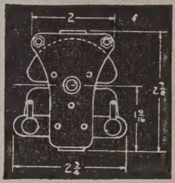
Construction of these condensers features BUD electro-soldered plate assemblies, assuring correct plate spacing, overall rigidity, and light weight. Losses are reduced to absolute minimum by this method of assembly. End-plates of the rigidly constructed frame have formed angles on top and bottom for mounting the condenser in any position, allowing associated inductance to be mounted on the condenser frame.

The edges of the brass rotor and stator plates are rounded and the assemblies are finished in cadmium plating. Steatite insulation is used throughout. Large surface front sleeve bearing, and ball and cup rear bearings, provide consistently smooth operation. A two-finger silver plated, spring brass pressure contact wiper assures noise-free and positive rotor contact at all times.

The low minimum capacities of these units make them especially suitable for multi-band applications where a high maximum-to-minimum capacity is desirable.

Panel space for mounting, only 2¾″ x 2⅞″.





BUD JUNIOR DUAL SECTION CONDENSERS

Rotor contact is made by a four-finger silver plated pressure spring placed at the center of the rotor shaft between the two sections, thereby providing perfect balance, and improving the high frequency characteristics. The tie-rods are insulated at both ends with Steatite insulators to prevent the development of inductive loops in condenser frame. All other constructional features and materials are the same as used on Junior single section condenser.

Single Section

Cat. No.	Max. Cap. MMFD Per Sec.	Min. Cap. MMFD Per Sec.	No. of Plates Per Sec.	Air Gap	Mtg. Hole Spcg.	Lgth. Over-all	Your Cost
JC-1525	50	4	7	.051″	2 1/16″	3 3/16″	$2.19
JC-1526	100	7	13	.051″	2 17/32″	3 21/32″	2.37
JC-1527	145	9	19	.051″	2 31/32″	4 3/32″	2.79
JC-1528	250	12	33	.051″	4 1/32″	5 5/32″	3.45
JC-1529	340	15	43	.051″	4 25/32″	5 29/32″	4.35
JC-1530	25	4	5	.078″	2 1/32″	3 5/32″	2.16
JC-1531	35	6	7	.078″	2 7/32″	3 11/32″	2.25
JC-1532	55	8	11	.078″	2⅝″	3¾″	2.52
JC-1533	80	9	15	.078″	3 1/32″	4 5/32″	2.67
JC-1534	110	10	21	.078″	3 11/16″	4 13/16″	3.06
JC-1535	150	11	29	.078″	4 15/32″	5 19/32″	3.69
JC-1536	190	15	37	.078″	5 9/32″	6 13/32″	4.56
JC-1537	245	17	47	.078″	6 5/16″	7 7/16″	5.43
JC-1538	20	5	7	.144″	2⅝″	3¾″	2.37
JC-1539	40	7	13	.144″	3⅝″	4¾″	2.61
JC-1540	55	10	17	.144″	4 5/16″	5 7/16″	3.06
JC-1541	80	12	25	.144″	5 21/32″	6 25/32″	3.51
JC-1542	105	15	33	.144″	7″	8⅛″	4.08
JC-1543	18	6	7	.175″	2 13/16″	3 15/16″	2.64
JC-1544	40	11	15	.175″	4 13/32″	5 17/32″	3.51
JC-1545	55	13	19	.175″	5 3/16″	6 5/16″	3.93
JC-1546	85	16	31	.175″	7 19/32″	8 23/32″	4.35
JC-1547	100	18	37	.175″	8 25/32″	9 29/32″	5.22

Dual Section

Cat. No.	Max. Cap. MMFD Per Sec.	Min. Cap. MMFD Per Sec.	No. of Plates Per Sec.	Air Gap	Mtg. Hole Spcg.	Lgth. Over-all	Your Cost
JC-1550A	20	3	3	.051″	3 1/32″	4 5/32″	$3.75
JC-1551A	50	5	7	.051″	3⅝″	4¾″	4.80
JC-1552A	70	6	9	.051″	3 15/16″	5 1/16″	5.25
JC-1553A	100	7	13	.051″	4 17/32″	5 21/32″	5.85
JC-1554A	145	9	19	.051″	5 7/16″	6 9/16″	6.81
JC-1560A	200	10	25	.051″	6 11/32″	7 15/32″	7.20
JC-1556A	250	12	33	.051″	7 17/32″	8 21/32″	7.47
JC-1570A	25	4	5	.078″	3 9/16″	4 11/16″	3.96
JC-1571A	35	6	7	.078″	3 31/32″	5 3/32″	5.01
JC-1572A	55	8	11	.078″	4 25/32″	5 29/32″	5.49
JC-1573A	80	9	15	.078″	5 19/32″	6 23/32″	6.33
JC-1561A	110	10	21	.078″	6 13/16″	7 15/16″	7.20
JC-1562A	150	11	29	.078″	8 7/16″	9 9/16″	8.10
JC-1574A	20	5	7	.144″	4¾″	5⅞″	5.37
JC-1575A	40	8	13	.144″	6 25/32″	7 29/32″	5.94
JC-1576A	55	10	17	.144″	8⅛″	9¼″	6.81
JC-1566A	18	6	7	.175″	5⅛″	6¼″	6.00
JC-1567A	40	11	15	.175″	8 5/16″	9 7/16″	7.20

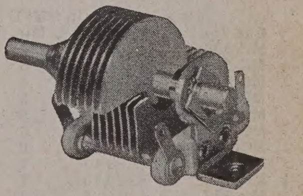
BUD MIDGET CONDENSERS

With high mechanical and electrical efficiency, small size, and sturdy construction, Bud Midgets have become the most popular of all small tuning units.

Their field of application is almost unlimited, for example, by Amateurs and Experimenters, in Laboratory and Research Projects, and in the products of the Electronic Industries.

In high-frequency and ultra-high-frequency receivers, low-power transmitters, wave meters, monitors, and many other electronic devices, the small size makes them ideal.

Modern design accounts for their high mechanical and electrical efficiency, embodying such noteworthy features as the following: Steatite insulation; long, accurately fitted bearings which eliminate side motion; spring cup washers, large surface silver plated beryllium copper wiper contacts, which insure smooth, noise-free operation; Cadmium-plated electro-soldered brass rotor and stator plate assemblies, which ensure perfect plate spacing, and minimize series resistance; rigid construction, which reduces to a minimum any possibility of vibration.



BUD DOUBLE BEARING MIDGET CONDENSERS

This complete group of double bearing capacitors embodies all the high-grade characteristics of the Bud Midget Line.

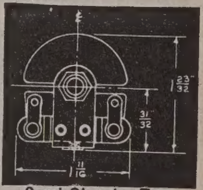
Bud Double Bearing Midget Condensers may be had in either the mid-line type plates (straight line wave length) or semi-circular plates (straight line capacity). They can be single hole panel mounted or chassis mounted. The double and triple spaced units are ideally suited for use in exciter and low-power transmitter applications.

SEMI-CIRCULAR TYPE

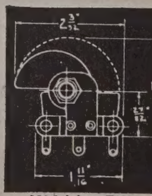
Cat. No.	Cap. in MMFD Max.	Cap. in MMFD Min.	Air Gap	No. Plates	Mtg. Holes	Your Cost
MC-1850	15	3	.024″	3	1 7/32″	$1.05
MC-1852	33	4	.024″	5	1 7/32″	1.14
MC-1853	50	5	.024″	7	1 7/32″	1.26
MC-1855	100	7	.024″	14	1 13/32″	1.50
MC-1856	140	7	.024″	19	1 19/32″	1.80
MC-1857	150	8	.024″	21	1 23/32″	1.74
MC-1858	190	9	.024″	27	2″	1.92
MC-1859	235	10	.024″	33	2 5/16″	2.10
MC-1860	300	12	.024″	43	2 23/32″	2.31
MC-1861	15	4	.060″	5	1⅛″	1.23
MC-1862	35	5	.060″	11	1⅝″	1.44
MC-1863	50	7	.060″	15	1 31/32″	1.53
MC-1864	75	9	.060″	23	2⅝″	1.89
MC-1865	100	12	.060″	31	3 9/32″	2.10
MC-1866	35	8	.095″	15	2 13/32″	1.65
MC-1867	50	10	.095″	23	3 11/32″	1.89
MC-1868	75	13	.095″	33	4 17/32″	2.19

MID-LINE TYPE

Cat. No.	Cap. in MMFD Max.	Cap. in MMFD Min.	Air Gap	No. Plates	Mtg. Holes	Your Cost
MC-926	15	3	.030″	3	1 7/32″	$1.11
MC-900	25	4	.024″	4	1 7/32″	1.11
MC-902	35	5	.024″	6	1 7/32″	1.20
MC-903	50	6	.024″	8	1 7/32″	1.32
MC-904	75	7	.024″	11	1 7/32″	1.47
MC-905	100	7	.024″	15	1 13/32″	1.56
MC-906	140	7	.024″	20	1 19/32″	1.80
MC-907	150	7	.024″	21	1 23/32″	1.89
MC-908	190	9	.024″	27	2″	1.98
MC-909	250	11	.024″	36	2 5/16″	2.16
MC-910	300	13	.024″	43	2 23/32″	2.40
MC-565	15	4	.060″	5	1⅛″	1.29
MC-897	35	6	.060″	11	1⅝″	1.50
MC-898	50	7	.060″	16	1 31/32″	1.59
MC-899	75	8	.060″	23	2⅝″	1.95
MC-941	100	11	.060″	31	3 9/32″	2.10
MC-965	35	8	.095″	15	2 13/32″	1.71
MC-966	50	12	.095″	23	3 11/32″	1.95
MC-967	75	14	.095″	33	4 17/32″	2.25

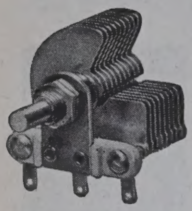


Semi-Circular Type



Mid-Line Type

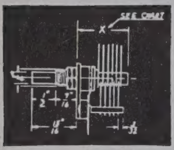
SINGLE BEARING MIDGET CONDENSERS

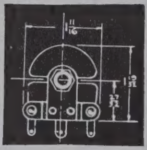


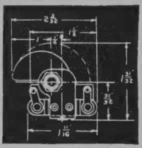
The difference in design of these units, in that they have a single front bearing, marks the only variation from the double-bearing units in the Midget line. They are identical in every other respect—workmanship, materials, and finish—with all the other Midget Condensers.

Accuracy in machining the single front bearing, and the application of rigid standards in all steps of production, assure the continuous satisfactory performance of Bud Single Bearing Midgets in any electronic application.

These small capacitors are especially desirable where economy and space are factors. They may be had in either Mid-Line or Semi-Circular type plates.







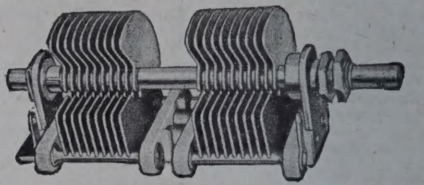
SEMI-CIRCULAR TYPE—Single Bearing

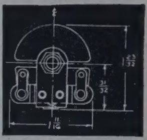
Cat. No.	Cap. in MMFD Max.	Cap. in MMFD Min.	Air Gap	No. of Plates	Depth Behind Panel	Your Cost
MC-1870	15	3	.024″	3	11/16″	$0.66
MC-1872	33	4	.024″	5	25/32″	.72
MC-1873	50	5	.024″	7	7/8″	.78
MC-1875	100	7	.024″	14	1 5/32″	.96
MC-1876	140	8	.024″	19	1 7/16″	1.05
MC-1879	15	4	.060″	5	15/16″	.81
MC-1880	35	5	.060″	11	1 7/16″	.99
MC-1881	50	7	.060″	15	1 3/4″	1.08

MID-LINE TYPE—Single Bearing

Cat. No.	Cap. in MMFD Max.	Cap. in MMFD Min.	Air Gap	No. of Plates	Depth Behind Panel	Your Cost
MC-324	10	2	.024″	2	9/16″	$0.72
MC-328	15	3	.030″	3	11/16″	.72
MC-323	25	4	.024″	4	3/4″	.72
MC-322	35	5	.024″	6	7/8″	.78
MC-148	50	5	.024″	8	15/16″	.84
MC-901	75	6	.024″	11	1 1/16″	.99
MC-321	100	6	.024″	15	1 7/32″	1.02
MC-396	140	7	.024″	20	1 1/2″	1.11
MC-320	150	7	.024″	21	1 9/16″	1.20
MC-327	5	2	.060″	2	9/16″	.72
MC-311	15	4	.060″	5	15/16″	.87
MC-319	35	6	.060″	11	1 7/16″	1.05
MC-312	50	7	.060″	16	1 13/16″	1.14

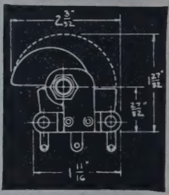
DOUBLE GANG MIDGET CONDENSERS





Where space is at a premium and split-stator capacitors are called for by circuit layout, Bud Double Gang Midgets are desirable.

Plate construction and finish, workmanship and materials, are identical with other Midget Condensers. Panel mounting and chassis mounting are provided for in the design of the Double Gang Midgets. They are built in either Mid-Line or Semi-Circular type plates.



MID-LINE PLATE TYPE

Straight Line Wave Length

Cat. No.	Cap. per Section Max.	Cap. per Section Min.	Air Gap	No. Plates per Section	Mtg. Holes	Dim. Overall Lgth.	Your Cost
MC-929A	50	5	.024″	7	1 31/32″	3 7/32″	$2.31
MC-911A	100	6	.024″	14	2 3/4″	4″	2.55
MC-912A	140	7	.024″	19	3 1/8″	4 3/8″	2.85
MC-942A	20	4	.060″	6	2 17/32″	3 25/32″	2.40
MC-913A	35	5	.060″	11	3 7/32″	4 15/32″	2.55
MC-330A	50	7	.060″	15	3 29/32″	5 5/32″	2.88
MC-331A	75	8	.060″	23	5 1/4″	6 1/2″	3.21
MC-329A	35	9	.095″	15	5 3/32″	6 11/32″	2.88

SEMI-CIRCULAR PLATE TYPE

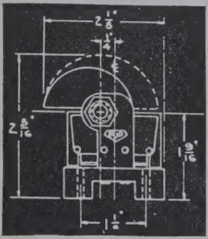
Straight Line Capacity

Cat. No.	Cap. per Section Max.	Cap. per Section Min.	Air Gap	No. Plates per Section	Mtg. Holes	Dim. Overall Lgth.	Your Cost
MC-1883A	50	5	.024″	7	1 31/32″	3 7/32″	$2.25
MC-1882A	100	7	.024″	14	2 3/4″	4″	2.49
MC-1884A	20	4	.060″	6	2 17/32″	3 25/32″	2.34
MC-1885A	35	5	.060″	11	3 7/32″	4 15/32″	2.49
MC-1887A	50	7	.060″	15	3 29/32″	5 5/32″	2.82
MC-1888A	75	8	.060″	23	5 1/4″	6 1/2″	3.15

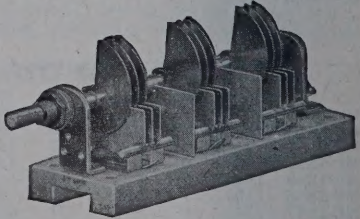
MIDGET CONDENSERS—Triple Section

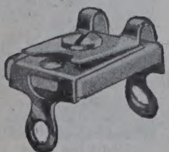
These mid-line plate type, three-gang condensers fill the need for a tuning unit suitable for short wave super-heterodyne receivers having an R. F. stage, gang-tuned exciters, and numerous other applications.

These condensers are mounted on a glazed ceramic base, offering perfect rigidity. General construction is the same as for other types of Midget Condensers. A shield plate is provided between each stator section. Base or panel mounting may be used.



Cat. No.	Cap. per Section Max.	Cap. per Section Min.	Air Gap	No. Plates per Section	Length Behind Panel	Your Cost
MC-886	20	4	.060″	6	5 1/4″	$3.15
MC-887	35	6	.060″	11	5 1/4″	3.36
MC-888	100	6	.024″	14	5 1/4″	3.60
MC-889	140	7	.024″	19	5 1/4″	3.84



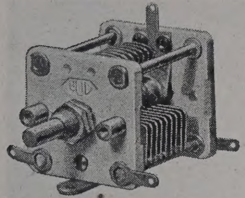


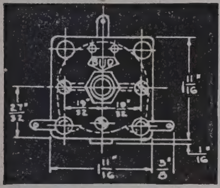
MIDGET TRIMMER CONDENSERS

This condenser is primarily intended for antenna coupling, interstage coupling, and tracking applications. Maximum capacity is 36 mmfd. and minimum is 2 mmfd. Base of trimmer is made of ceramic.

Catalog Number MT-833—Shipping weight 10—2 lbs...Your Cost $0.15

"CE" MIDGET CONDENSERS—DOUBLE BEARING





These Midget condensers were designed to meet the rigid requirements in design of efficient ultra-high frequency, electronic devices and precision laboratory equipment.

Brass rotor and stator plate stacks are assembled into permanent units by means of electro-soldering, which assures long life and accurate plate spacing. End-plates of solid Steatite, insulate the mounting bushings and angles from the rotor and stator assemblies. A large front sleeve and rear ball thrust bearing provide for smooth rotation. Silver plated wiper contact provides noise-free tuning. All other metal parts are corrosion-resisting cadmium plated. Rotor plates are semi-circular shaped. Provision for either panel or base mounting.

Single Spacing

Cat. No.	Max. Cap. MMFD	Min. Cap. MMFD	Air Gap	No. of Plates	Mfg. Dim.	Overall Lgth.	Your Cost
CE-2000	15	4	.030″	3	1 15/32″	2½″	$1.29
CE-2001	35	6	.030″	7	1 11/16″	2 23/32″	1.44
CE-2002	50	7	.030″	9	1 13/16″	2 27/32″	1.59
CE-2003	75	8	.030″	14	2⅛″	3 5/32″	1.80
CE-2004	100	9	.030″	18	2 5/16″	3 11/32″	2.01
CE-2005	150	10	.030″	27	2 25/32″	3 13/16″	2.31
CE-2006	200	11	.030″	35	3 7/32″	4¼″	2.61
CE-2007	250	12	.030″	44	3 23/32″	4¾″	2.88
CE-2008	300	15	.030″	52	4 5/32″	5 3/16″	3.00

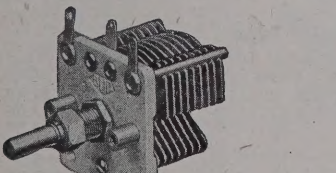
Double Spacing

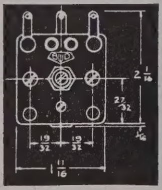
Cat. No.	Max. Cap. MMFD	Min. Cap. MMFD	Air Gap	No. of Plates	Mfg. Dim.	Overall Lgth.	Your Cost
CE-2011	15	5	.060″	5	1 23/32″	2¾″	$1.47
CE-2012	35	7	.060″	11	2 7/32″	3¼″	1.65
CE-2013	50	8	.060″	15	2 17/32″	3 9/16″	2.01
CE-2014	75	10	.060″	23	3 7/32″	3¼″	2.46
CE-2015	100	13	.060″	31	3⅞″	4 9/16″	2.73

Triple Spacing

Cat. No.	Max. Cap. MMFD	Min. Cap. MMFD	Air Gap	No. of Plates	Mfg. Dim.	Overall Lgth.	Your Cost
CE-2016	35	9	.095″	15	3 1/32″	4 1/16″	$1.80
CE-2017	50	10	.095″	23	4″	5 1/32″	2.28
CE-2018	75	14	.095″	33	5 3/16″	6 7/32″	2.67

"CE" TYPE SINGLE BEARING MIDGET CONDENSER





A rotor locking nut, provided especially, adapts these single bearing condensers to portable and mobile service. A screw-driver slot in rotor provides means of adjustment. Either insulated panel mounting or bracket mounting is incorporated. General construction is same as "CE" double bearing condensers.

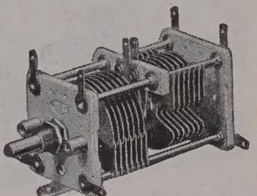
Single Spacing

Cat. No.	Max. Cap. MMFD	Min. Cap. MMFD	Air Gap	No. Plates	Depth Behind Panel	Overall Lgth.	Your Cost
CE-2020	15	4	.030″	3	1″	1 11/16″	$1.02
CE-2021	35	6	.030″	7	1 7/32″	1 29/32″	1.11
CE-2022	50	7	.030″	9	1 11/32″	2 1/32″	1.23
CE-2023	75	8	.030″	14	1 9/16″	2¼″	1.38
CE-2024	100	9	.030″	18	1 25/32″	2 15/32″	1.44
CE-2025	150	10	.030″	27	2 5/16″	3″	1.65

Double Spacing

Cat. No.	Max. Cap. MMFD	Min. Cap. MMFD	Air Gap	No. Plates	Depth Behind Panel	Overall Lgth.	Your Cost
CE-2028	15	5	.060″	5	1¼″	1 15/16″	$1.17
CE-2029	35	7	.060″	11	1¾″	2 7/16″	1.26
CE-2030	50	8	.060″	15	2 3/32″	2 25/32″	1.38

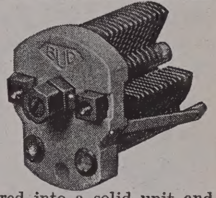
"CE" TYPE DUAL MIDGET CONDENSERS



These well constructed dual condensers are similar in design to the double bearing types. They feature a rotor wiping contact placed at center of the rotor assembly to assure maximum efficiency at ultra-high frequency. Having opposed rotors assures perfect counter-balance and provides even torque at any position of rotation. Steatite insulation eliminates any possibility of closed induction loop in frame.

Cat. No.	Max. Cap. MMFD Per Section	Min. Cap. MMFD Per Section	Air Gap	No. of Plates Per Section	Distance Behind Panel	Mtg. Dimension	Over all Length	Your Cost
CE-2032	35	6	.030″	7	3 1/32″	2¾″	3¾″	$2.13
CE-2033	50	7	.030″	9	3¼″	2 31/32″	3 31/32″	2.31
CE-2034	75	8	.030″	14	3 21/32″	3⅜″	4⅜″	2.76
CE-2035	100	9	.030″	18	4 3/32″	3 13/16″	4 13/16″	2.88
CE-2036	150	10	.030″	27	5 3/16″	4 29/32″	5 29/32″	3.42
CE-2039	15	5	.060″	5	3 1/32″	2¾″	3¾″	2.46
CE-2040	35	7	.060″	11	4 1/32″	3¾″	4¾″	2.85
CE-2041	50	8	.060″	15	4 23/32″	4 7/16″	5 7/16″	3.12

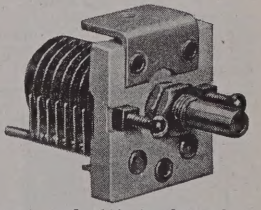
BUD TINY MITE PADDERS



For applications requiring a constant padder capacity under all temperature and humidity conditions, these units are ideal. They lend themselves readily to I. F. transformer applications, fixed tuned circuits for exciters, ganged condenser air trimmer, and plug-in-coil padding as they fit inside of standard 1½″ diameter coil forms. Rotor and stator assemblies are made up of brass plates (0.015″ thick) and rods electrically soldered into a solid unit and then are bright cadmium plated. Insulation is Steatite.

Cat. No.	Max. Cap. MMFD	Min. Cap. MMFD	Air Gap	No. of Plates	Overall Lgth.	Your Cost
LC-2076	15	2	.015″	5	1 11/32″	$0.78
LC-2077	25	2.5	.015″	7	1 13/32″	.78
LC-2078	35	3	.015″	10	1½″	.84
LC-2079	50	3.9	.015″	14	1⅝″	.90
LC-2080	75	4.5	.015″	20	1 13/16″	1.02
LC-2081	100	5.5	.015″	27	2″	1.14
LC-2082	140	6.5	.015″	37	2 5/16″	1.35

BUD TINY MITE TUNING CONDENSERS—Single Section



This series of condensers has been designed for applications where space or weight are limiting factors, and for tuning of ultra-high frequency circuits. Rigid construction, close fitting bearing, positive rotor contact, and Steatite insulation are the outstanding features. Cadmium plated soldered brass plates and rods insure high frequency efficiency.

Each unit may be mounted in any of three ways without additional hardware, namely (1) single hole panel mount, (2) insulated panel mount, and, (3) insulated base mount.*

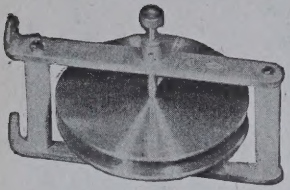
Cat. No.	Max. Cap. MMFD	Min. Cap. MMFD	Air Gap	No. Plates	Depth Behind Panel	Your Cost
LC-1640	8	2.5	.017″	3	29/32″	$0.69
LC-1641	15	3	.017″	5	31/32″	.78
LC-1642	25	4	.017″	9	1 3/32″	.90
LC-1643	35	5	.017″	13	1¼″	.96
LC-1644	50	6	.017″	19	1 7/16″	1.02
LC-1645	75	7	.017″	29	1 25/32″	1.20
LC-1646	100	9	.017″	37	2 1/16″	1.26
LC-1648	10	4	.037″	7	1 5/32″	.84
LC-1649	15	5	.037″	11	1⅜″	1.02
LC-1650	25	5.5	.037″	17	1 11/16″	1.11
LC-1651	35	6	.037″	21	1 29/32″	1.32
LC-1652*	50	8	.037″	35	2 5/16″	1.56
LC-1653	6	3.5	.073″	5	1 3/16″	.90
LC-1654	15	5.5	.073″	15	2 3/32″	1.11
LC-1655*	25	9	.073″	27	2¾″	1.50

BUD TINY MITE DUAL CONDENSERS

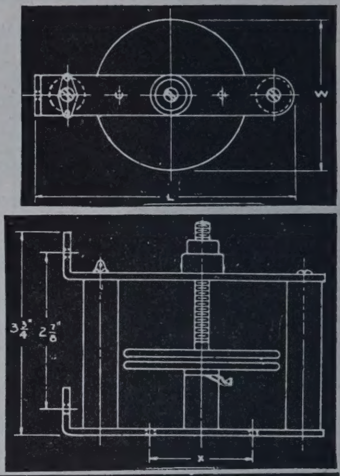
The construction of these units is similar to the regular Tiny Mite.

Cat. No.	Cap. per Section Max. MMFD	Min. MMFD	Air Gap	No. of Plates per Sect.	Mtg. Holes	Overall Lgth.	Your Cost
LC-1659	8	2.5	.017″	3	1 1/16″	1 15/16″	$1.56
LC-1660	15	3	.017″	5	1 3/16″	2 1/16″	1.74
LC-1661	25	4	.017″	9	1 15/32″	2 11/32″	1.89
LC-1662	50	6	.017″	19	2 5/32″	3 1/32″	2.04
LC-1663	100	9	.017″	37	3⅜″	4¼″	2.31
LC-1664	10	4	.037″	7	1 19/32″	2 15/32″	1.65
LC-1665	15	5	.037″	11	2 1/16″	2 15/16″	1.80
LC-1666	25	5.5	.037″	17	2 11/16″	3⅞″	1.95
LC-1667	35	6	.037″	21	3⅛″	4″	2.10

UNIVERSAL NEUTRALIZING AND HIGH FREQUENCY TUNING CONDENSERS

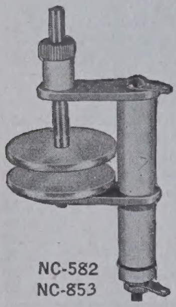


This line of condensers will fill every neutralizing and high frequency tuning requirement that modern circuits impose. Their advanced construction enables these condensers to be mounted either vertically or horizontally. The two-pillar construction makes this unit unusually sturdy and eliminates any possibility of capacity variation due to vibration. The removable plate is adjusted by means of the threaded shaft to which it is attached, and it is permanently locked in any position by the lock-nut provided. Any loose thread is taken up by a special nut and locked to give smooth operation. All metal parts are of aluminum. Plates have a spun finish and perfectly rounded edges. Having ¼-32 thread turning stud, each turn of the screw will advance plate $\frac{1}{32}$ of an inch. Steatite insulation is used. For capacity air gap relations see graph below. For dimensions see drawing and table.

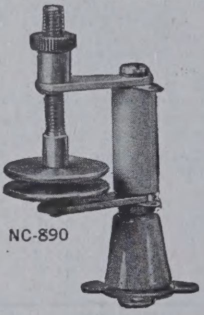


Cat. No.	Plate Dia. Dim. W	Dimension X	L	For Tube Types	Ship. Wt.	Your Cost
NC-1000	$1\frac{27}{32}$"	$1\frac{5}{16}$"	$3\frac{21}{32}$"	35T, TZ 40, HY-40, etc.	2 lbs.	$2.10
NC-1001	$2\frac{13}{16}$"	$1\frac{27}{32}$"	$4\frac{23}{32}$"	100TH, HK-254, T-125, etc.	2 lbs.	3.00
NC-1002	4¾"	$2\frac{13}{16}$"	$6\frac{11}{16}$"	211, 203 T-814, etc.	3 lbs.	4.20

FEED-THROUGH AND BASE MOUNTED NEUTRALIZING CONDENSERS



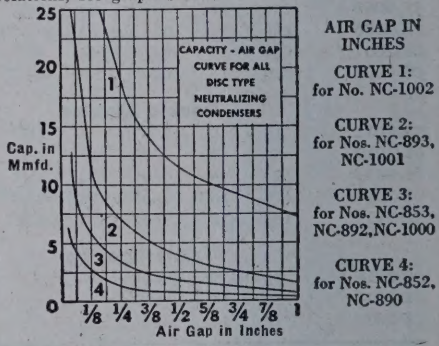
NC-582
NC-853



NC-890

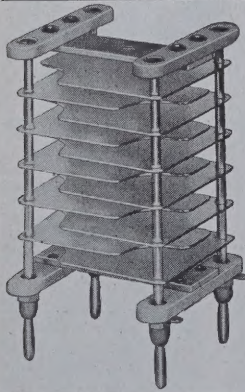
Feed-through neutralizing condensers are particularly suited in circuits utilizing tubes with the grid lead terminating in the base. One hole is required for mounting of feed-through condensers. The threaded brass rod holding the condenser in place also brings the connection to the bottom plate through the chassis, thus shortening and simplifying wiring. Plates are made of aluminum with spun finish rounded at edges to cut down losses. After proper tuning is attained, movable plate is locked by a knurled nut provided.

No. 890 and No. 852 are ideal neutralizers for popular low-powered beam tubes. No. 890 condenser is base mounted only. For capacity air gap relations, see graph below.



Cat. No.	Plate Diam.	Size Hole for Mtg.	For Tube Types	Ship. Wt.	Your Cost
NC-852	1"	$\frac{5}{16}$"	HY-60, 807, 6L6, etc.	1 lb.	$0.90
NC-853	$1\frac{27}{32}$"	$\frac{13}{32}$"	35T, TZ-40, HK-54, etc.	2 lbs.	2.10
NC-890	1"		HY-60, 807, 6L6, etc.	1 lb.	.90

BUD STAT-AIR CONDENSERS



It is difficult to design a radio-frequency amplifier to cover any large frequency range and maintain a proper L/C ratio due to variable condenser limitations. By paralleling the proper Stat-Air condenser in this series with the tuning condenser, this difficulty is easily overcome.

The finish of these electro-soldered brass plate assemblies is cadmium plating, and Steatite insulation is used. They are furnished in either Junior or Senior types.

Junior Type

Cat. No.	Cap. MMFD	Air Gap	No. Plates	Dim. Above Panel	Ship. Wt. Approx.	Your Cost
FA-777	25	.144"	8	2¼"	2 lbs.	$2.67
FA-780	50	.144"	17	$3\frac{9}{16}$"	2 lbs.	3.06
FA-544	75	.144"	23	$4\frac{19}{32}$"	2 lbs.	3.57
FA-781	100	.144"	29	$5\frac{21}{32}$"	3 lbs.	3.96
FA-782	100	.078"	19	$2\frac{23}{32}$"	2 lbs.	3.36
FA-783	150	.078"	27	$3\frac{19}{32}$"	3 lbs.	3.96

Mounting Dimen.: 1¼" x 1½". Overall Dimen.: 1⅞" x $1\frac{11}{16}$".

Senior Type

Cat. No.	Cap. MMFD	Air Gap	No. Plates	Dim. Above Panel	Ship. Wt. Approx.	Your Cost
FA-778	25	.238"	5	$2\frac{5}{32}$"	2 lbs.	$3.06
FA-784	50	.238"	11	$3\frac{13}{16}$"	3 lbs.	3.60
FA-545	75	.238"	15	$4\frac{15}{16}$"	3 lbs.	3.96
FA-786	100	.238"	19	$6\frac{3}{64}$"	3 lbs.	4.44
FA-785	100	.100"	11	$2\frac{7}{16}$"	2 lbs.	3.00
FA-787	150	.100"	15	3"	2 lbs.	4.23

Mounting Dimen.: 2" x 2¼". Overall Dimen.: 2¾" x 2¾".

BUD COMPACT NEUTRALIZING CONDENSERS

In applications where space is the prime factor, these units are ideal for neutralizing and high frequency tuning. Low loss steatite is used for dielectric. Mounting of these condensers features either one hole mounting or fastening to solder lugs provided. All brass parts are nickel plated. A knurled locknut permits locking of movable plate.

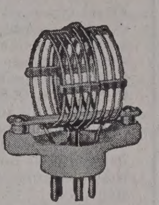
Cat. No.	Cap. Range in MMFD	Overall Lgth. Dimen.	Max. Diam. Dimen.	Ship. Wt. Approx.	Your Cost
NC-1928	.75 to 4	$2\frac{13}{16}$"	⅝"	1 lb.	$0.45
NC-1929	1 to 6	$2\frac{7}{16}$"	¾"	1 lb.	.99
NC-1930	2 to 12	$3\frac{7}{16}$"	⅞"	2 lbs.	1.32

No. 1929

No. 1930

No. 1928

50 WATT OSCILLATOR AND BUFFER COILS



The ceramic mounting base keeps the coil a safe distance from the chassis when the coil socket is mounted on the chassis. It also permits easy coil removal without disturbing the winding. All coils are air-wound with enameled copper wire and mount in 5-prong tube sockets. All 160 meter coils are fitted with end reinforcements to lend additional support to the windings.

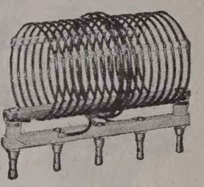
OEL Coils have fixed end link and are NOT center tapped. OCL Coils have fixed center link with main winding center tapped. OLS Coils have adjustable center link with main winding center tapped.

End Linked

Cat. No.	Band	Capacity*	Length	Height	Width	Your Cost
OEL-160	160 M	90 MMFD	1⅞"	2¾"	1⅞"	$1.05
OEL-80	80 M	75 MMFD	1¾"	2¾"	1⅞"	.99
OEL-40	40 M	50 MMFD	1⅞"	2¾"	2"	.99
OEL-20	20 M	33 MMFD	1½"	2¾"	2"	.99
OEL-10	10 M	28 MMFD	1½"	2½"	1⅝"	.99
OEL-5	5 M	18 MMFD	1½"	2⅛"	1½"	.81
		Center Linked				
OCL-160	160 M	90 MMFD	1¾"	2⅝"	1¾"	$1.05
OCL-80	80 M	75 MMFD	1¾"	2⅝"	1⅞"	.99
OCL-40	40 M	50 MMFD	1¾"	2¾"	1⅞"	.99
OCL-20	20 M	33 MMFD	1⅝"	2¾"	1⅞"	.99
OCL-10	10 M	28 MMFD	1½"	2½"	1⅝"	.99
OCL-5	5 M	18 MMFD	1¼"	2¼"	1⅝"	.81
		Adjustable Center Linked				
OLS-160	160 M	95 MMFD	2"	2¾"	1⅞"	$1.05
OLS-80	80 M	75 MMFD	2"	2⅞"	1⅞"	.99
OLS-40	40 M	50 MMFD	1⅞"	2⅞"	1¾"	.99
OLS-20	20 M	33 MMFD	1⅝"	2⅞"	1⅞"	.99
OLS-10	10 M	21 MMFD	1¾"	2⅞"	1¾"	.99

*Denotes total capacity required to tune to resonance at the low frequency end of the band.

AIR-WOUND TRANSMITTER COILS



The power ratings of these coils indicate the maximum input power allowable to the stage in which they are to be used. The "Air-wound" construction of all these coils, together with the enameled copper windings and Steatite mounting bars, make all three series unusually efficient. Coils are self-supporting but are rigidly held in place by fire-resistant locking strips. All units have a fixed link at the center and are center tapped.

150 Watt Rating

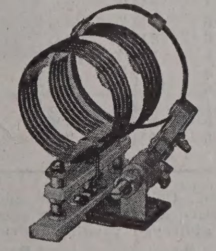
Cat. No.	Band	Capacity*	Length	Height	Width	Mounting Block	Your Cost
RCL-160	160 M	87 MMFD	2⅞"	3⅞"	3¼"	3½"	$2.49
RCL-80	80 M	68 MMFD	2⅜"	3½"	3"	3½"	2.31
RCL-40	40 M	36 MMFD	2¼"	3½"	3"	3½"	2.10
RCL-20	20 M	27 MMFD	2½"	3½"	3"	3½"	1.80
RCL-10	10 M	25 MMFD	2"	3⅜"	2⅞"	3½"	1.65
AM-1932	Mounting Base for 150 Watt Coils						.60
		500 Watt Rating					
VCL-160	160 M	90 MMFD	3¾"	5¼"	4⅜"	5½"	$2.85
VCL-80	80 M	69 MMFD	3¾"	4¼"	3½"	5½"	2.64
VCL-40	40 M	26 MMFD	3¼"	3⅞"	3⅛"	5½"	2.31
VCL-20	20 M	23 MMFD	3½"	3⅞"	3⅛"	5½"	2.10
VCL-10	10 M	21 MMFD	2¼"	3⅝"	3"	5½"	1.98
VCL-5	5 M	14 MMFD	3"	3"	2⅜"	5½"	1.89
AM-1356	Mounting Base for 500 Watt Coils						.75
		One Kilowatt Rating					
MCL-160	160 M	86 MMFD	5⅜"	6⅝"	6"	8⅛"	$6.21
MCL-80	80 M	73 MMFD	4¾"	5⅛"	4¼"	8⅛"	5.40
MCL-40	40 M	37 MMFD	6"	5¼"	4½"	8⅛"	5.01
MCL-20	20 M	33 MMFD	5½"	4⅝"	3⅞"	8⅛"	4.65
MCL-10	10 M	24 MMFD	4½"	4⅛"	3⅛"	8⅛"	4.20
MCL-5	5 M	18 MMFD	4½"	4"	3⅛"	8⅛"	3.90
AM-1354	Mounting Base for One Kilowatt Coils						1.20

*Denotes total capacity required to tune to resonance at the low frequency end of the band.

ADJUSTABLE LINK TRANSMITTER COILS

Since one of the most effective means of varying the loading of an R. F. Stage is by the use of a variable link to the plate tank, these three lines of inductances have this feature incorporated in them. In each series the link winding is connected to the jack bar into which the coils are plugged. The one link may thus be used with any of the coils. This link winding is of the helical type and is so arranged that it may be readily controlled from the panel by means of an extension shaft if required.

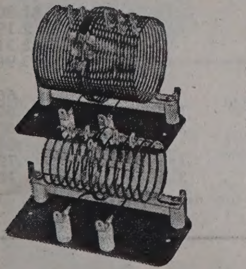
All coils in this series are of the "Air-wound" type, making them very efficient. Windings are made of enameled copper wire, and the mounting and plug bars are made of Steatite to ensure a minimum of loss. Windings are held firmly and positively in place by fire-resistant locking strips to ensure constant inductance. The links couple to the coils at the center and all inductances are center tapped.



150 Watt Rating

Cat. No.	Band	Capacity*	Length Mtg. Strip	Mtg. Hole	Length Coil	Height of Link	Swing of Link	½ Coil W	Your Cost
RLS-160	160 M	95 MMFD	3½"	3⅛"	2¾"	4¼"	4¼"	1½"	$2.25
RLS-80	80 M	78 MMFD	3½"	3⅛"	2¾"	4¼"	4¼"	1½"	1.95
RLS-40	40 M	38 MMFD	3½"	3⅛"	2¾"	4¼"	4¼"	1¼"	1.71
RLS-20	20 M	30 MMFD	3½"	3⅛"	2¼"	4¼"	4¼"	1¼"	1.50
RLS-10	10 M	28 MMFD	3½"	3⅛"	1½"	4¼"	4¼"	1 3/16"	1.44
AM-1339	Base and Link Assembly for 150 Watt Coils								2.40
		500 Watt Rating							
VLS-160	160 M	95 MMFD	5½"	5"	4⅜"	5½"	5¾"	2"	$2.55
VLS-80	80 M	70 MMFD	5½"	5"	3⅞"	5½"	5¾"	1½"	2.31
VLS-40	40 M	36 MMFD	5½"	5"	4"	5½"	5¾"	1 5/16"	1.95
VLS-20	20 M	28 MMFD	5½"	5"	4"	5½"	5¾"	1 5/16"	1.80
VLS-10	10 M	21 MMFD	5½"	5"	3"	5½"	5¾"	1 5/16"	1.59
AM-1352	Base and Link Assembly for 500 Watt Coils								3.30
		One Kilowatt Rating							
MLS-160	160 M	95 MMFD	8⅛"	5⅝"	6¼"	5⅞"	6⅛"	2⅛"	$5.25
MLS-80	80 M	65 MMFD	8⅛"	5⅝"	5¾"	5⅞"	6⅛"	2"	4.50
MLS-40	40 M	37 MMFD	8⅛"	5⅝"	6"	5⅞"	6⅛"	2"	4.20
MLS-20	20 M	33 MMFD	8⅛"	5⅝"	6"	5⅞"	6⅛"	1⅝"	3.90
MLS-10	10 M	25 MMFD	8⅛"	5⅝"	5½"	5⅞"	6⅛"	1⅝"	3.45
AM-1340	Base and Link Assembly for Kilowatt Coils								4.65

*Denotes total capacity required to tune to resonance at the low frequency end of the band.



ANTENNA MATCHING NETWORK COILS

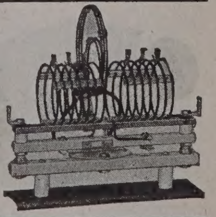
The low frequency coil in each rating is designed for operation from 160 meters to 40 meters, and the high frequency coil in each rating is designed for operation from 20 to 10 meters.

All coils and links have a sufficient number of taps provided to allow both the inductance and the coupling to be varied over a wide range.

The coils are supported on Steatite insulators, which are mounted on a **Black Crackled** base. This base is provided with two holes for convenience in mounting.

Cat. No.	Height	Range in Meters	Mtg. Hole Dim.	Length Base	Overall Width	Overall Height	Your Cost
ACV-1	500 W	160-40	6½"	7½"	5¼"	5¾"	$3.75
ACV-2	500 W	20-10	6½"	7½"	4¼"	4½"	3.00
ACM-1	1 Kilowatt	160-40	7½"	8½"	6⅛"	7⅜"	7.20
ACM-2	1 Kilowatt	20-10	7½"	8½"	4¾"	5¼"	5.61

ADJUSTABLE LINKED ANTENNA COILS

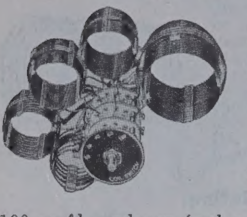


When the final amplifier plate coil has a fixed link, it is desirable to use adjustable linked coils in the antenna matching network. These coils are made in 500 watt and 1 kw. ratings. Two sizes of inductances are made in both ratings. Mounting hardware and complete instructions are included with each coil.

Cat. No.	Rating	Range	Coil Length	Mtg. Hole	Base Length	Height Link	½ Width Coil	Swing	Your Cost
VLA-1	500 W	160-40	6"	7¾"	8½"	7¾"	2"	6"	$3.30
VLA-2	500 W	20-10	5"	7¾"	8½"	7¾"	1⅜"	6"	2.55
MLA-1	1 K W	160-40	6½"	7¾"	8½"	9"	2⅝"	8"	6.00
MLA-2	1 K W	20-10	6¼"	7¾"	8½"	9"	1⅝"	8"	4.80

AM-1963 Mtg. Base and Link for VLA Types....$3.00 **AM-1964** Mtg. Base and Link for MLA Types....$4.20

100 WATT BAND SWITCH ASSEMBLY



Three types of 10 to 160 meter band switch assemblies are made in this 100 Watt series. XCS-1 and XCS-2 are for operation on 10, 20, 40, 80 and 160 meters. XCS-16 is for operation only on 10 and 160 meters.

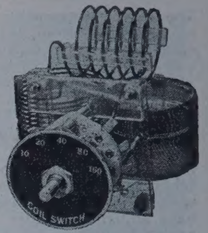
XCS-1 and XCS-16 are designed for use in push-pull plate or grid circuits, or single-ended plate circuits where plate neutralization is used. The coils in this assembly are center-tapped and center-linked. Either a single section 100 mmfd. condenser (such as BUD No. JC-1534) or a dual section 200 mmfd. condenser (such as BUD No. JC-1569) is required to tune all bands. The No. JC-1569 condenser is especially recommended for plate circuit applications in order to obtain the highest possible efficiency on the high frequency bands.

XCS-2 is designed for use in single-ended pentode plate circuits and single-ended grid circuits. The coils in this assembly are end-linked. A 100 mmfd. condenser (such as BUD No. JC-1534) is required to tune all bands.

Each assembly is supplied with complete installation instructions. A five position dial plate, marked "10 to 160" meters, is supplied with XCS-1 and XCS-2 for convenience in identifying the coil positions. XCS-16, being a two position assembly, is supplied with two small name-plates marked "10 Meters" and "160 Meters." Shipping weight, each coil, 3 lbs.

Cat. No.	Width	Height	Depth	Your Cost
XCS-1	8"	4¼"	5"	**$6.60**
XCS-2	8"	4¼"	5"	**6.00**
XCS-16	7"	4"	4"	**4.20**

50 WATT BAND SWITCH ASSEMBLY



Four types of 10 to 160 meter band switch assemblies are made in this oscillator and buffer series. They are all designed for use in stages where the input power does not exceed 50 watts. OCS-1, OCS-2, and OCS-3 are for operation on 10, 20, 40, 80, and 160 meters. OCS-16 is for operation only on 10 and 160 meters.

OCS-1 and OCS-16 are designed for use in pentode oscillator and buffer stages that are capacity coupled to the following stage.

OCS-2 is designed for use in single-ended pentode oscillator and buffer stages that are link coupled to the following stage. It can also be used in a single-ended grid circuit that is link coupled to the preceding stage. The coils in this assembly are end-linked.

OCS-3 is designed for use in push-pull plate or grid circuits, or single-ended plate circuits where plate neutralization is used. The coils in this assembly are center-tapped and center-linked.

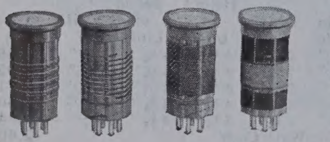
Each assembly is supplied with complete installation instructions. A five position dial plate, marked "10 to 160 Meters," is supplied with OCS-1, OCS-2, and OCS-3 for convenience in identifying the coil positions. OCS-16, being a two position assembly, is supplied with two small nameplates marked "10 Meters" and "160 Meters." A 100 mmfd. condenser (such as BUD No. MC-905 or JC-1526) is required to tune all bands. Where the OCS-3 is used in plate circuit applications, it is preferable to use a dual 200 mmfd. per section condenser (such as BUD No. JC-1569). Shipping weight of each coil, 3 lbs.

Cat. No.	Width	Height	Depth	Your Cost
OCS-1	3¾"	3¾"	3½"	**$3.60**
OCS-2	7"	5"	4¼"	**4.95**
OCS-3	6½"	4¾"	4¼"	**6.00**
OCS-16	3¾"	3¾"	3½"	**2.40**

JUNIOR COIL KITS

These coils are wound on 1¼" ribbed bakelite coil forms and are intended for uses as follows:

Nos. CK-354, CK-365, CK-357, and CK-358 are used in tickler type regenerative detectors with antenna coupled through a trimmer and also in R. F. and Preselector stages.



Nos. CK-356, CK-366, CK-359 and CK-360 are used in tickler type regenerative detectors where antenna coupling is accomplished through the additional winding provided.

Cat. No.	No. Coils	Prongs	No. Windings	Wave Range	Your Cost
CK-354	4	4	2	11-210	**$1.32**
CK-365	1	4	2	7-17	**.60**
CK-357	1	4	2	185-360	**.60**
CK-358	1	4	2	350-565	**.60**
CK-356	4	6	3	11-210	**1.92**
CK-366	1	6	3	7-17	**.69**
CK-359	1	6	3	185-360	**.69**
CK-360	1	6	3	350-565	**.69**

PLUG-IN COIL FORMS

Three sizes are available in these Plug-in Coil Forms to suit all usual requirements.

The material used is a special natural color bakelite having a very low loss factor. Eight ribs are molded on the walls of each form to hold the winding away from the form itself and give the coil higher efficiency. Each form has a molded flange at the top to aid in removing the coil from its socket, and the pins fit standard tube sockets.

All 1½" forms have a shoulder on the inside suitable for mounting a regular Tiny Mite Padder condenser in the coil.

Cat. No.	Prongs	Diameter	Winding Space	Hgt.	Your Cost
CF-734	4	2¼"	3¼"	3½"	**$0.45**
CF-735	5	2¼"	3¼"	3½"	**.48**
CF-736	6	2¼"	3¼"	3½"	**.48**
CF-125	4	1½"	2½"	2⅞"	**.27**
CF-126	5	1½"	2½"	2⅞"	**.27**
CF-310	6	1½"	2½"	2⅞"	**.30**
CF-594	4	1¼"	2⅛"	2¼"	**.21**
CF-595	5	1¼"	2⅛"	2¼"	**.24**
CF-596	6	1¼"	2⅛"	2¼"	**.24**

SENIOR COIL KITS

All coils in these kits are primarily intended for use in the various types of autodyne and T. R. F. sets being built by home constructors. All coils are wound on regular Senior ribbed bakelite coil forms 1½" diameter and are carefully designed for the greatest possible efficiency. These inductances are wound to cover their specified tuning range with a 140 mmfd. tuning condenser, and identification discs on top of each unit show wave band covered.

Nos. CK-222, CK-223, CK-224, and CK-361 are used in tickler type regenerative detectors with antenna coupled through a trimmer condenser. This series may also be used in R. F. and preselector stages.

No. CK-916 is intended to be used in regenerative detectors utilizing a tapped grid coil in an electron-coupled circuit.

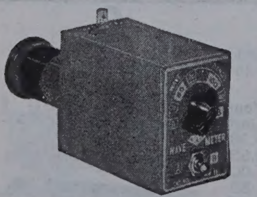
No. CK-917 is identical to CK-916 with the exception that four additional matched coils are included to be used in an R. F. stage preceding the detector.

Nos. CK-362, CK-918, CK-960 and CK-961 are used in tickler type regenerative detectors where antenna coupling is accomplished through the additional winding provided.

Cat. No.	No. Coils	Prongs	No. Windings	Wave Range	Your Cost
CK-222	4	4	2	16-200	**$1.80**
CK-916	4	5	2*	16-200	**2.19**
CK-918	4	6	3	16-200	**2.31**
CK-917	4 R.F. 4 Det.	4 5	2 2*	16-200 16-200	**3.96**
CK-361	1	4	2	7-17	**.66**
CK-224	1	4	2	185-360	**.60**
CK-223	1	4	2	350-565	**.60**
CK-362	1	6	3	7-17	**.84**
CK-960	1	6	3	185-360	**.72**
CK-961	1	6	3	350-565	**.72**

* Denotes tapped secondary winding for use in Electron-coupled circuits.

WAVE METER

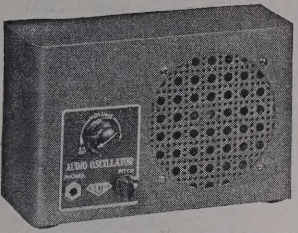


The most necessary device utilized in conjunction with the proper adjustment and operation of an amateur transmitter is a Wave Meter. To fill the need for a unit of this type, accurately calibrated for the amateur bands, this unit has been introduced. With this device, the wave length on which each stage in the transmitter is tuned may be easily and quickly determined, and it is, therefore, particularly useful in checking to see that frequency multiplier stages are operating on the proper harmonics and also to see that the various R. F. amplifier stages are amplifying at the proper wave-length.

Since the BUD Wave Meter will detect quite weak R. F. fields when its inductance is closely coupled to the tank inductance of the circuit in question, it is also useful as a neutralizing indicator, and in addition, it may be used to indicate the position of standing waves on feeder and antenna systems.

The case is finished in **Grey Crackle Enamel**. The attractive etched name-plate enables the various amateur bands from 10 to 160 meters to be easily identified, when bandswitching is employed, thereby eliminating the need for plug-in coils. The unit comes completely wired and calibrated, together with indicator bulb.

Cat. No. WM-77—Ship. wt. 4 lbs.....Your Cost $5.25



CODE PRACTICE OSCILLATOR

This audio oscillator has a built-in magnetic speaker. Operates up to twenty earphones. Speaker is automatically cut out of the circuit when earphones are inserted. Ten phones may be connected in parallel. More than ten earphones, connect in series-parallel.

A volume control and a pitch control are provided. Any number of keys may be connected in parallel for group practice. Operates on 110 volts, A.C. or D.C.

Size 7⅛" x 4½" x 3¾".

No. CPO-124—Sh. wt. 6 lbs. **Your Cost $9.00**

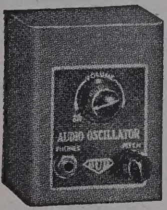
CODE PRACTICE OSCILLATOR

Dynamic Speaker Model

For either individual or group code practice. Readily heard above the ordinary room noises. Mounted on the front panel are the power switch, key jack, and audio pitch selector switch. A choice of two audio tones is available.

Provision to plug in an additional key and speaker when using the oscillator for two-way code practice. This speaker (BUD CPS-121) may be plugged in without the use of an output transformer. Wired complete with built-in dynamic speaker and tube. Operates on 110 volts A.C. or D.C. Size: 6" x 4¼" x 3½".

Cat. No. CPO-120—Ship. wt. 6 lbs.............**Your Cost $8.75**

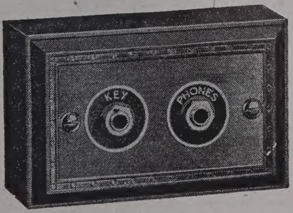


CODE PRACTICE OSCILLATOR—Earphone Model

Operates 20 Pairs of Earphones

Will operate one to twenty earphones or one to five small magnetic speakers (BUD CPS-123). A volume control and a pitch control are provided. Any number of keys may be connected in parallel for group practice. Housed in a compact metal case. Finished in **Grey Crackle** Enamel. Operates on 110 volts A.C. or D.C. Size: 4½" x 3⅝" x 3⅝".

Cat. No. CPO-122—Ship. wt. 4 lbs...............**Your Cost $7.75**

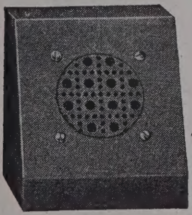


KEY AND PHONES OUTLET BOX

Convenient means of terminating Key and Earphone connections in group or classroom practice. Can be placed at each operator's position and wired to the master oscillator. Keys and Earphones terminating in phone plugs can then be plugged into the outlet box. Box made of bakelite. 4⅝" x 1½" x 2⅞".

Cat. No. CPO-127—Ship. wt. 10 pieces, 4 lbs.

Your Cost $1.08

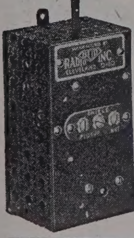


ADDITIONAL MOUNTED SPEAKERS

No. CPS-121 is a 2" permanent-magnet type dynamic speaker and is intended for use with CPO-120. No. CPS-123 is a 3" magnetic speaker intended for use with either CPO-122 or CPO-124. Several speakers can be connected in parallel and used with these oscillators.

The speakers are plugged into the "Phones" jack on both latter units. The speakers are housed in a sloping panel, **Grey Crackle** metal cabinet. Size 4¼" x 4" x 4". Weight 3½ lbs.

Cat. No.	Type	Your Cost
CPS-121	Dynamic	$2.60
CPS-123	Magnetic	3.00



WIRELESS PHONOGRAPH OSCILLATOR

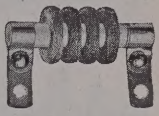
Any standard record player easily converted to wireless operation. Record reproduction is then possible through a regular radio receiver without the necessity of cumbersome interconnecting wires. Easily installed. Instructions furnished.

Faithful reproduction. Unit wired and tested, includes tube. **Black Crackle** Enamel. Operates from 115 volts A.C. or D.C. Frequency range, approx. 1100 to 2150 K.C. 4½"x2½"x2⅛".

Cat. No. WO-6—Ship. wt. 5 lbs........................**Your Cost $6.00**

PIE-WOUND R.F. CHOKES

With Strap Leads

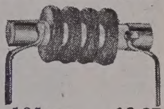


For radio receivers and transmitters. No. CH-876 is a heavy duty choke for transmitter plate circuits. 1½" x ⅝".

Cat. No.	Induct. in M.H.	D.C. Resist.	Cap.	Your Cost
CH-920S	2.5	45 ohms	125 ma	$0.30
CH-922S	5.5	60 ohms	125 ma	.39
CH-923S	8.0	72 ohms	100 ma	.48
CH-924S	10.0	78 ohms	100 ma	.54
CH-876S	2.5	16 ohms	250 ma	.54

PIE-WOUND R.F. CHOKES

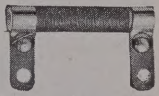
With Wire Leads



Same Specifications as Above

CH-920W	2.5	45 ohms	125 ma	$0.27
CH-922W	5.5	60 ohms	125 ma	.36
CH-923W	8.0	72 ohms	100 ma	.45
CH-924W	10.0	78 ohms	100 ma	.51
CH-876W	2.5	16 ohms	250 ma	.51

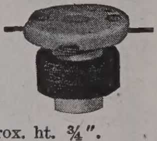
ULTRA HIGH FREQUENCY R.F. CHOKES



For ultra high frequency receivers and transmitters. Consists of a ceramic rod with a single layer winding. Suitable for use on 2½ or 5 meters. The CH-570 is sometimes used as a filament choke in certain types of ultra high frequency oscillator and amplifier circuits. CH-570 is supplied with a mounting foot.

Cat. No.	Inductance uh.	Max. Current ma.	D.C. Resistance ohms	L In.	Diam. In.	Ship. Wt.	Your Cost
CH-925	5.7	750	1.4	1½	9/32	3 oz.	$.18
CH-570	15	1700	0.2	2¾	⅝	½ lb.	.72

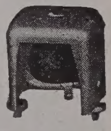
LATTICE WOUND R.F. CHOKES



Wound with silk-covered enameled copper wire on ceramic bobbin. Readily mounted with a 6-32 screw through the center. Thoroughly impregnated against moisture. Overall diam. 1 1/16", approx. ht. ¾".

Cat. No.	Ind. M.H.	D.C. Res. Ohms	Current M.A.	Your Cost
CH-1212	2.5	28	125	$0.27
CH-1213	3.4	36	125	.30
CH-1214	5.5	46	125	.33
CH-1215	8.	60	125	.33
CH-1216	10.	65	125	.36
CH-1217	16.	84	125	.39
CH-1218	30.	190	100	.42
CH-1219	60.	279	90	.57
CH-1220	80.	332	80	.60

IRON CORE R.F. CHOKES



Circuit improves by use of these chokes. The improved "Q" results from the D.C. resistance being from 40 to 50% less for a given inductance than for regular air-core types. D.C. voltage drop through the choke is considerably less, yet the choking action is equally as good. Mounted in square shield cans 1⅜" x 1⅜ x 1 7/16".

Cat. No.	Ind. M.H.	D.C. Res. Ohms	Current M.A.	Your Cost
CH-1277	1.5	11.5	125	$0.60
CH-1278	2.5	16.	125	.60
CH-1279	3.4	19.5	125	.66
CH-1280	5.5	27.5	125	.66
CH-1281	8.	36.	125	.72
CH-1282	10.	42.5	125	.72
CH-1283	16.	53.	125	.81
CH-1284	30.	82.	100	.81
CH-1285	60.	131.	100	.96
CH-1286	80.	163.	90	1.05
CH-1287	125.	221.	90	1.29
CH- 294	Shield Can Only			.18

5 METER INTERRUPTER COIL

An interrupter coil for use in the low frequency oscillator in 5 meter superregenerative circuits. Lattice wound on a ceramic form. Shipping weight, 4 oz. Size, 1¼" x 15/16".

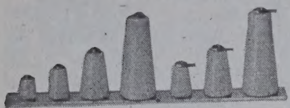
Cat. No. CH-452..............**Your Cost $0.81**

TRANSMITTING CHOKES

Heavy duty R.F. Chokes for high-power transmitter plate circuits. **Ceramic coating prevents moisture absorption. Withstands momentary overloads without collapsing the individual pies.** Intended to be used on 10, 20, 40, 80, and 160 meter bands. Design prevents any of the pies from being resonant, keeps distributed capacity at a minimum. Wt. ½ lb. Ht. 3¼".

Cat. No.	Induct. MH	Cap. MA	Resist. Ohms	Diam. In.	Your Cost
CH-568	2.2	1000	5	1¼	$1.17
CH-569	4.3	600	12	1½	.99

CONE STAND-OFF INSULATORS



All applications requiring insulated mountings and supports are readily accommodated by these various types and sizes of ceramic insulators. Each unit is made from high grade glazed porcelain having good mechanical strength. Nos. I-300 to I-303 are tapped at each end and are supplied with necessary hardware. Nos. I-304 to I-306 are supplied with No. PJ-949 Banana Plug Jack and accommodate standard banana and GR plugs.

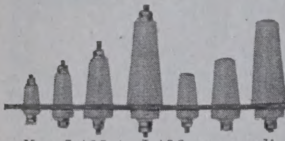
REGULAR CONE INSULATORS

Cat. No.	H	Top Dia.	Base Dia.	Thread	Approx. Ship. Wt.-25	Your Cost
I-300	⅝″	$\frac{7}{16}$″	⅝″	6-32	3 lbs.	$0.09
I-301	1″	½″	¾″	8-32	4 lbs.	.12
I-302	1½″	⅝″	1″	10-32	5 lbs.	.17
I-303	2¾″	¾″	1¼″	10-32	6 lbs.	.24

JACK TYPE CONE INSULATORS

Cat. No.	H	Top Dia.	Base Dia.	Thread	Approx. Ship. Wt.-25	Your Cost
I-304	1″	½″	¾″	8-32	3½ lbs.	$0.18
I-305	1½″	⅝″	1″	10-32	5½ lbs.	.21
I-306	2¾″	¾″	1¼″	10-32	6½ lbs.	.30

CONE FEED-THROUGH INSULATORS



In bringing high voltage and R. F. leads through panels and chassis, and for numerous other uses, this line of two-piece insulators will be found indispensable. Made of the same ceramic material as the Stand-Off Insulators.

Nos. I-435 to I-438 are supplied with threaded rod and necessary hardware, while Nos. I-453 to I-455 are supplied with No. PJ-949 jack top attached to appropriate threaded rod.

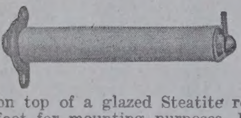
REGULAR CONE FEED-THROUGH INSULATORS

Cat. No.	Top Height	Bottom Height	Mounting Hole Dia.	Approx. Ship. Wt.-25	Your Cost
I-435	⅝″	$\frac{3}{16}$″	$\frac{11}{32}$″	3½ lbs.	$0.12
I-436	1″	$\frac{5}{16}$″	$\frac{15}{32}$″	4½ lbs.	.18
I-437	1½″	⅜″	$\frac{9}{16}$″	5½ lbs.	.21
I-438	2¾″	⅜″	$\frac{9}{16}$″	6½ lbs.	.39

JACK TYPE CONE FEED-THROUGH INSULATORS

Cat. No.	Top Height	Bottom Height	Mounting Hole Dia.	Approx. Ship. Wt.-25	Your Cost
I-453	1″	$\frac{5}{16}$″	$\frac{15}{32}$″	4 lbs.	$0.21
I-454	1½″	⅜″	$\frac{9}{16}$″	5½ lbs.	.24
I-455	2¾″	⅜″	$\frac{9}{16}$″	6½ lbs.	.42

PILLAR INSULATORS



The need for a firm support for high voltage leads such as those going to plates of rectifier tubes or large transmitting tubes is adequately filled by these two numbers.

Each unit consists of a heavy lug on top of a glazed Steatite rod $\frac{7}{16}$″ in diameter, with a convenient foot for mounting purposes. Fittings are nickel plated.

Cat. No.	Length	Approx. Ship. Wt.-25	Your Cost
I-738	1⅜″	3½ lbs.	$0.18
I-739	2⅞″	5½ lbs.	.24

NEW TYPE FEED-THRU INSULATOR BUSHINGS

I-457

I-456

New type Bud feed-thru insulator bushing made from LUCITE, in two sizes to simplify insulation problems when high voltage wires are fed through chassis or panels. If wires are insulated, it is not necessary to remove insulation as the center holes are large enough to pass it. If larger size hole is required, material can be easily drilled. Each bushing supplied with nut for mounting on material up to ⅛″ thick.

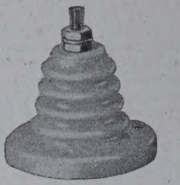
Cat. No.	Description	Your Cost
I-456	Diameter ½″ with ⅛″ wire hole	$0.09
I-457	Diameter ¾″ with $\frac{3}{16}$″ wire hole	.12

CERAMIC RODS

These convenient sizes are available in glazed Steatite. Both ends of all rods are tapped for standard machine screws, to simplify mounting condensers, coils, and similar components.

Cat. No.	Length	Diam.	Tapped	Approx. Ship. Wt.-25	Your Cost
I-7569	2¾″	⅝″	8-32	3½ lbs.	$0.36
I-7568	1″	⅝″	8-32	3 lbs.	.30
I-7507	1″	$\frac{5}{16}$″	6-32	2½ lbs.	.13
I-6715	1″	$\frac{7}{16}$″	6-32	3 lbs.	.13
I-6716	2½″	$\frac{7}{16}$″	6-32	3½ lbs.	.24
I-7758	1⅝″	⅝″	10-32	3 lbs.	.36

CERAMIC STAND-OFF INSULATORS



Apparatus requiring a rugged insulated mounting can be readily accommodated by one or more numbers in this series of white glazed insulators. All metal parts are nickel plated brass and the jack type insulators are designed for standard banana and GR plugs.

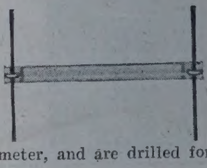
Cat. No.	Type	Descrip.	Base Size	H	Std. Pkg.	Ap. Sh. Wt. Std. Pkg.	Your Cost
I-234	Beehive	Stand-off	2$\frac{1}{16}$″ dia.	2$\frac{1}{16}$″	10	3 lbs.	$0.17
I-933	Beehive	Jack-Type	2$\frac{1}{16}$″ dia.	2$\frac{1}{16}$″	10	3 lbs.	.20
I-974	Senior	Stand-off	1″ x 1½″	1¾″	20	3 lbs.	.09
I-932	Senior	Jack Type	1″ x 1½″	1¾″	20	3 lbs.	.13
I-930	Junior	Stand-off	¾″ x 1⅛″	1½″	25	3 lbs.	.08
I-931	Midget	Stand-off	½″ x ⅞″	$\frac{15}{16}$″	50	3½ lbs.	.07

LUCITE INSULATORS

Here is a new series of feeder spreaders, stand-off insulators, and feed-through insulators designed for applications that demand the finest type of insulation. They are made of DuPont Lucite, a new plastic that has extremely low losses at radio frequencies. It is water-clear, and all outside surfaces are highly polished.

In addition to their remarkable electrical properties, these insulators will greatly add to the finished appearance of any piece of equipment in which they are used.

LUCITE FEEDER SPREADERS



Designed for all average feeder requirements. A 600 ohm line can be made with any size wire from No. 12 to No. 18 by using one of the spreaders listed below. The spreader used for this application depends on the wire size. Further data on this subject is available in any antenna handbook. These spreaders are furnished with locking screws to clamp the wire in place. All spreaders are ⅜″ in diameter, and are drilled for No. 12 wire.

Cat. No.	Wire Spacing	Standard Package	Approx. Ship. Wt. Std. Pkg.	Your Cost
I-1900	2″	25	3½ lbs.	$0.18
I-1901	4″	25	4 lbs.	.21
I-1902	5″	25	4½ lbs.	.24
I-1903	6″	25	5 lbs.	.27

LUCITE STAND-OFF INSULATORS

The Lucite pillar-type stand-off insulators listed below are made in a convenient number of sizes to fit a variety of applications. They are intended for chassis mounting in a single mounting hole. The ½″ diameter insulators are supplied with 6-32 mounting screws. The ¾″ diameter insulators are supplied with 10-32 mounting screws.

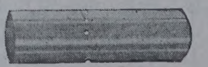
Cat. No.	H	Dia.	Std. Pkg.	App. Ship. Wt. Std. Pkg.	Your Cost
I-1904	1¼″	½″	25	3 lbs.	$0.18
I-1890	2″	½″	25	3½ lbs.	.24
I-1905	2¾″	½″	25	3½ lbs.	.27
I-1899	1¼″	¾″	25	3½ lbs.	.30
I-1906	2¼″	¾″	25	3½ lbs.	.36
I-1907	4¼″	¾″	25	4 lbs.	.51
I-1908	6¼″	¾″	25	5 lbs.	.72

LUCITE FEED-THROUGH INSULATORS

These Lucite feed-through insulators are made in two diameters, and five convenient heights. They are ideal for bringing high-frequency leads through a chassis or shield and are superior to ceramic insulators for this purpose. The ½″ diameter insulators are furnished with 6-32 hardware. The ¾″ diameter insulators are furnished with 10-32 hardware.

Cat. No.	Rod Dia.	Bot. Hgt.	Top Hgt.	Mtg. Hole	Std. Pkg.	Ap.Sh.Wt. Std.Pkg.	Your Cost
I-1909	½″	¼″	¼″	$\frac{5}{16}$″	25	3 lbs.	$0.18
I-1910	½″	¼″	½″	$\frac{5}{16}$″	24	3 lbs.	.21
I-1911	½″	¼″	1″	$\frac{5}{16}$″	25	3½ lbs.	.24
I-1912	¾″	½″	1½″	$\frac{7}{16}$″	25	4 lbs.	.45
I-1913	¾″	½″	2″	$\frac{7}{16}$″	25	4 lbs.	.51

LUCITE ROD

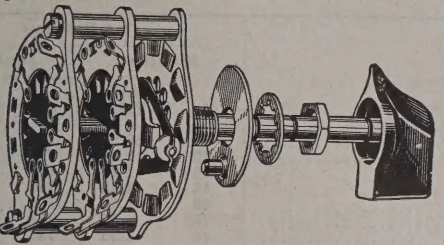


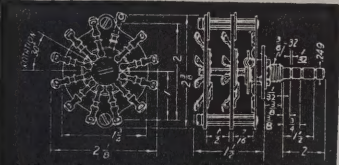
Cat. No.	Dia.	L	Ap.Sh.Wt. Std.Pkg.-5	Your Cost
I-1914	¼″	12″	1 lb.	$0.30
I-1915	⅜″	12″	1½ lbs.	.36
I-1916	½″	12″	1½ lbs.	.63
I-1917	¾″	12″	2 lbs.	1.08

Lucite Rod can be supplied on special order in any of the four diameters listed above, in lengths up to 48″.

P. R. MALLORY & CO. Inc. MALLORY Selector Switches

MULTI-GANG CIRCUIT SELECTOR AND ALL-WAVE SWITCHES
Types 1200L Series and 1300L Series





A 2-section circuit switch on which 1 to 11 points can be used by means of the adjustable stop.

● All contacting members of Mallory Circuit Selector Switches are heavily silver-plated with a hard finish that will withstand the wear throughout the life of the apparatus in which the switch is used. The high lift of the contact springs gives a wiping and self-cleaning contact.

The new adjustable stop feature provides for additional combinations in each switch and makes it possible to use a single switch for many different specifications. Provided with ⅜″ diameter, ⅜″ long brass bushing and 2″ long shaft, grooved for easy cutting at popular lengths.

Three and four-gang switches have one-inch spacing between sections, all others one-half inch. If necessary, these switches can be disassembled, the spacers cut down to meet the requirements as to length of the switch and the spacing of the sections.

(Prices include Mallory No. 366 Knob, one No. 232 Nut and one No. 227 Lockwasher, but do not include Dial Plates. See page L-50 for special Dial Plates.)

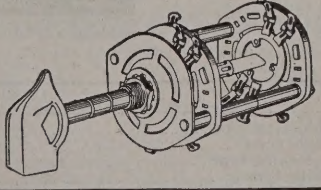
No. of Circuits per Section or Gang	Total No. of Circuits per Switch	No. of Points or Contacts per circuit	No. of Sections or Gangs per Switch	**Shorting Type Catalog No.**	**Non-Shorting Type Cat. No.**	**List Price**
1	1	6	1	**1216L***	**1316L***	**$1.20**
1	1	11	1	**1211L**	**1311L**	**1.40**
2	2	5	1	**1215L***	**1315L***	**1.50**
3	3	3	1	**1213L***	**1313L***	**1.65**
4	4	2	1	**1212L***	**1312L***	**1.75**
1	2	6	2	**1226L***	**1326L***	**1.95**
1	2	11	2	**1221L**	**1321L**	**2.10**
2	4	5	2	**1225L***	**1325L***	**2.40**
3	6	3	2	**1223L***	**1323L***	**2.55**
4	8	2	2	**1222L***	**1322L***	**2.70**
1	3	6	3	**1236L***	**1336L***	**2.65**
1	3	11	3	**1231L**	**1331L**	**2.85**
2	6	5	3	**1235L***	**1335L***	**3.00**
1	4	6	4	**1246L***	**1346L***	**3.30**
1	4	11	4	**1241L**	**1341L**	**3.60**
2	8	5	4	**1245L***	**1345L***	**4.20**
1	5	11	5	**1251L**	**1351L**	**4.50**
2	10	6	5	**1256L**	**1356L**	**5.55**
1	6	11	6	**1261L**	**1361L**	**5.30**
2	12	6	6	**1266L**	**1366L**	**6.75**

*These switches are provided with an "off" position which is in addition to the number of positions listed in third column.

UNIVERSAL MOUNTING BRACKET RB254

● For baseboard or rear support mounting of all Mallory circuit selector switches, volume controls and jacks. Universal Mounting Bracket No. RB254 packed five to the carton. **List price** each............................$0.25

HAMBAND SWITCHES—Series 160C



For transmitter band switching.

● Hamband Switches are rated for use in transmitter plate circuits using up to 1000 Volts DC with power up to 100 watts inclusive.

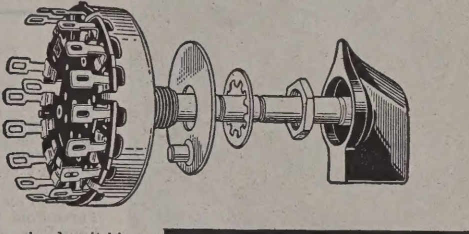
Impregnated magnesium silicate ceramic provides low losses at high frequencies. No stops; switch shaft is capable of continuous rotation. 90° indexing. Technical data sheet, Form Y-646 available on request. Prices include 2″ grooved shaft, ⅜″ bushing and one each 366 Knob, No. 232 Nut and No. 227 Lockwasher.

Dial Plate for above, numbered 1 to 4.

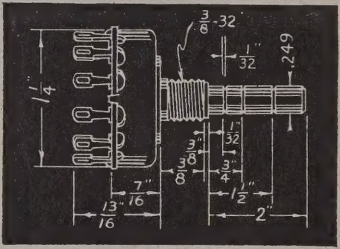
No. 488. List price..........$0.20

No. of Sections or Gangs	Circuits per Switch	Spacing between Sections	No. of Points or Contacts per Circuit	**Cat. No.**	**List Price**
1	1	..	4	**161C**	**$2.05**
2	2	2″	4	**162C**	**3.25**
3	3	1″	4	**163C**	**4.70**
4	4	1″	4	**164C**	**5.90**
5	5	1″	4	**165C**	**7.35**

SINGLE-GANG CIRCUIT SELECTOR SWITCHES
Types 3100J Series and 3200J Series



● For receiver band switching, tone control and tap switch applications. Available only in single gang and in two sizes—one with 1¼-inch diameter base, the other with $1\frac{11}{16}$-inch diameter base. The circuit combinations shown below indicate respective sizes. They are made in both shorting and non-shorting types. Adjustable stop features is available only in the $1\frac{11}{16}$-inch base size. Switches are equipped with universal shaft, 2 inches long and grooved to provide easy cutting at popular lengths.



(Prices include one Mallory No. 366 Knob, one No. 232 Nut, and one No. 227 Lockwasher, but no Dial Plate. See page L-50 for special Dial Plates.) Adjustable stop available only on $1\frac{11}{16}$″ dia. base.

Number of Circuits	Number of Contacts per Circuit	Diameter of Base	Adjustable Stop	**Shorting Type Catalog No.**	**Non-Shorting Type Cat. No.**	**List Price**
1	5	1¼″	No	**3115J**	**3215J**	**$0.90**
1	12	1¼″	No	**31112J**	**32112J**	**.90**
2	2	1¼″	No	**3122J**	**3222J**	**.90**
2	3	1¼″	No	**3123J**	**3223J**	**.90**
2	6	1¼″	No	**3126J**	**3226J**	**.90**
3	4	1¼″	No	**3134J**	**3234J**	**1.10**
4	2	1¼″	No	**3142J**	***3242J**	**1.05**
4	3	1¼″	No	**3143J**	**3243J**	**1.10**
1	17	$1\frac{11}{16}$″	Yes	**‡31117J**	**32117J**	**1.65**
2	9	$1\frac{11}{16}$″	Yes	**3129J**	**3229J**	**1.65**
3	6	$1\frac{11}{16}$″	Yes	**3136J**	**3236J**	**1.80**
6	3	$1\frac{11}{16}$″	Yes	**3163J**	**†3263J**	**1.80**

*Replaces No. 2742. †Replaces No. 2762 by using adjustable stop. ‡Replaces No. 150J by using adjustable stop.

CIRCUIT OPENING SWITCH No. 1400L

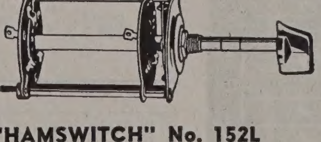
● Mallory No. 1400L Switch will "open" any one of twelve "lines" for the insertion of a current reading meter and maintains a "through" circuit on the other eleven lines.

Special Circuit Opening Switch complete with Mallory Bar Type Knob No. 366, one No. 232 Nut, one No. 227 Lockwasher, and Mallory Etched Dial Plate No. 382.

No. 1400L. List price...$5.40

"HAMSWITCH" No. 151L

● Provides a method of using a single meter to measure currents or voltages up to and including five circuits of an Amateur Transmitter.



Two-gang construction with 2¼″ spacing between sections, permitting multiplying resistors to be soldered directly to switch terminals. Has 2-inch grooved shaft, ⅜″ bushing, one each No. 366 Knob, No. 232 Nut and No. 227 Lockwasher.

"Hamswitch" No. 151L. List price $2.20. Dial Plate for above, numbered 1 to 5, with markings spaced 60°. **No. 487. List price $0.20.**

"HAMSWITCH" No. 152L

● A two-gang unit, carrying two circuits through six positions, similar to 1326L, but with 330° shorting shoes which automatically connect together and short all unused terminals. Supplied with ⅜″ bushing, 2″ grooved shaft, one each No. 366 Knob, No. 232 Nut, and No. 227 Lockwasher.

"Hamswitch" No. 152L. List price......................................$2.70

24-POINT TAP SWITCH No. 13124L

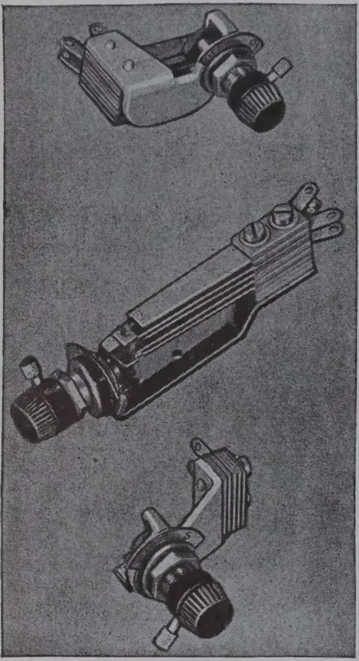
● A special single circuit, 24-point non-shorting switch with ⅜″ bushing and 2″ grooved shaft, particularly useful in test equipment applications. No stops—switch is capable of continuous rotation.

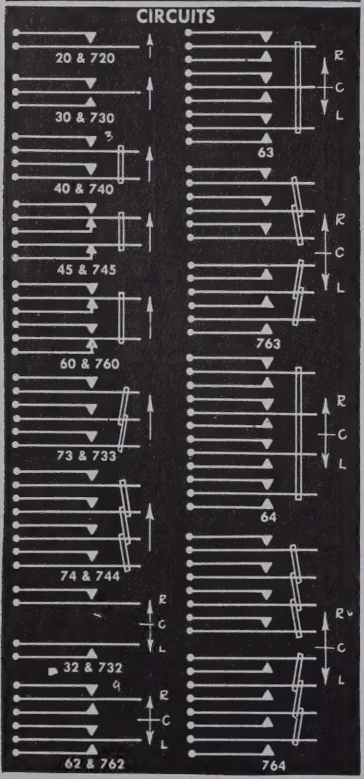
Complete with Mallory Bar Type Knob No. 366, one No. 232 Nut, one No. 227 Lockwasher, and Mallory Dial Plate No. 394.

No. 13124L. List price...$3.20

Jack and Slide Switches
Push-Button Switches

P. R. MALLORY & CO. Inc.
MALLORY





MIDGET JACK SWITCHES

● Same general construction as the Junior types but require less space. Furnished complete with one each No. 255 Nut, No. 226 Washer, Black Knob Pointer and "Off-On" name plate. Mount in single hole $\frac{7}{16}$" diameter on panels up to ¼" thick.

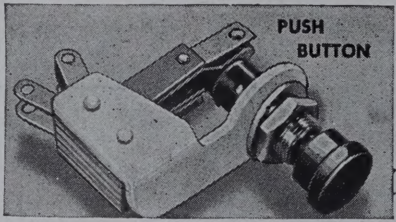
List Price
Single-Pole, Single-Throw—No. 10......$0.60
Single-Pole, Double-Throw—No. 11...... .80

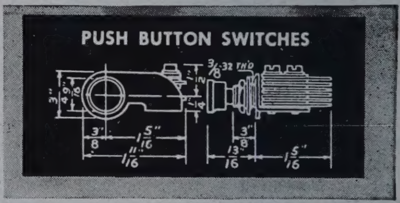
STANDARD AND JUNIOR JACK SWITCHES

(Made under Patent No. 1,443,604)

Circuit Arrangement	Two Position			
	Standard		**Junior**	
	No.	**List Price**	**No.**	**List Price**
Single-Pole, Single-Throw	20	$0.90	720	$0.85
Single-Pole, Double-Throw	30	1.10	730	1.05
Double-Pole, Single-Throw	40	1.20	740	1.15
Five Springs, two break and one make	45	1.40	745	1.35
Double-Pole, Double-Throw	60	1.50	760	1.50
Three-Pole, Single-Throw	73	1.50	733	1.50
Four-Pole, Single-Throw	74	1.95	744	1.95
Circuit Arrangement	**Three Position**			
Single-Pole, Double-Throw Center off Position	32	$1.10	732	$1.05
Double-Pole, Double-Throw Center off Position	62	1.50	762	1.45
Three-Pole, Double-Throw Center off Position	63	1.95	763	1.90
Four Pole, Double-Throw Center off Position	64	2.40	764	2.35

● Mallory Jack Switches and Junior Jack Switches are furnished complete with Black Knob, Pointer, and one each No. 232 Nut and No. 226 Washer. Two-position switches only are furnished with "Off-On" name plate. Mount in a single hole, $\frac{7}{16}$" diameter, on panels up to ¼" thick.



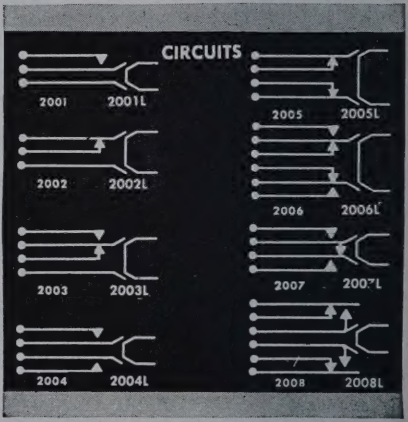


PUSH BUTTON SWITCHES
(Single)

● Especially adapted for use in laboratories, test panels, meter circuits and where permanent or momentary contact is desired.

The non-locking switch operates only when the button is pushed in and releases on removal of the pressure. The locking type maintains its position when the button is pushed in and is released when button is pulled out.

Furnished with polished black Bakelite Knob, one each No. 232 Nut, No. 226 Washer and Set Screw. Mounts in single hole $\frac{7}{16}$" diameter on panels up to ¼" thick.



	Cat. No.	List Price
S. P. Make contact—Non-locking type	2001	$1.10
S. P. Make contact—Locking type	2001-L	1.10
S. P. Break contact—Non-locking type	2002	1.10
S. P. Break contact—Locking type	2002-L	1.10
S. P. Double-Throw—Non-locking type	2003	1.20
S. P. Double-Throw—Locking type	2003-L	1.20
2-Pole—Make two contacts—Non-locking type	2004	1.45
2-Pole—Make two contacts—Locking type	2004-L	1.45
2-Pole—Break two contacts—Non-locking type	2005	1.45
2-Pole—Break two contacts—Locking type	2005-L	1.45
2-Pole—Double-Throw—Non-locking type	2006	1.80
2-Pole—Double-Throw—Locking type	2006-L	1.80
2-Pole—Make two—Break one—Non-locking type	2007	1.60
2-Pole—Make two—Break one—Locking type	2007-L	1.60
Double-Throw—Make before break—Non-locking type	2008	2.00
2-Pole—Double-Throw—Make before break—Locking type	2008-L	2.00

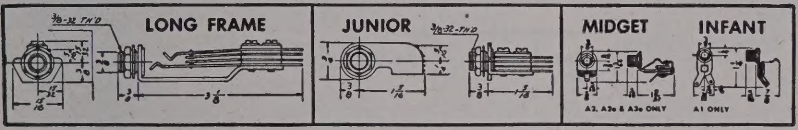
Plugs and Jacks

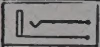
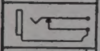
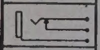
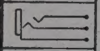
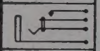
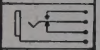
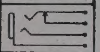
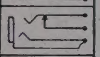
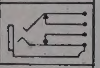
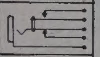
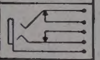
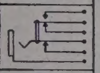
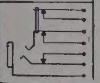
P. R. MALLORY & CO. Inc.
MALLORY

Phone Plugs • Microphone Plugs • Extension Jacks

Description	Cat. No.	List Price
Two-Way Phone Plug with Tie-Cord Anchor (Bakelite Shell)	75	$0.60
Two-Way Phone Plug with Tie-Cord Anchor (Shielded Nickel Shell)	75N	.90
Two-Way Phone Plug with Tie-Cord Anchor (Shielded Nickel Shell) (with Built-in Cable Clamp)	75A	1.50
Three-Way Microphone Plug (Bakelite Shell)	76	.90
Three-Way Microphone Plug (Shielded Nickel Shell) (with Built-in Cable Clamp)	76A	1.80
Two-Way Extension Jack (Fiber Shell) for No. 75 Phone Plug	100	1.20
Two-Way Extension Jack (Shielded Nickel Shell) for No. 75N Phone Plug	100N	1.50
Two-Way Extension Jack (Shielded Nickel Shell) for No. 75A Phone Plug (with Built-in Cable Clamp)	100A	2.10

JACKS—Long Frame, Junior, Midget



	LONG FRAME		JUNIOR		MIDGET and INFANT	
	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
	1	$0.60	701	$0.50	*A1	$0.30
	2	.75	702	.70	A2	.45
	2A	.75	702A	.70	A2A	.50
	2B	.75	702B	.70		
	3	.85	703	.80		
	3A	.85	703A	.80	A3A	.75
	3B	.85	703B	.80		
	3CJ	.85	703C	.80		
	4	1.00	704	.90		
	4A	1.00	704A	.90		
	4B	1.00	704B	.90		
	5	1.10	705	1.05		
	6	1.20	706	1.15		

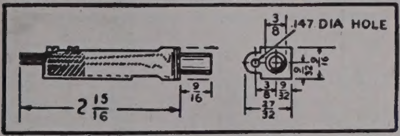
*Commonly referred to as "Infant" Jack.

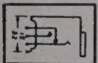
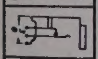
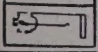
"GROUNDING" JACK No. GJ-1

For "grounding" airplanes while refueling. Similar in construction to A1 Jack (above), except for insulation. **List Price**......**$0.40**

All Long Frame and Junior Jacks are supplied with one each No. 232 Nut and No. 226 Washer. All A1 (Infant) Jacks supplied with one each No. 232 Nut and No. 225 Washer. All Midget Jacks have two No. 232 Nuts and one No. 225 Washer.

JACKS—"X" Type



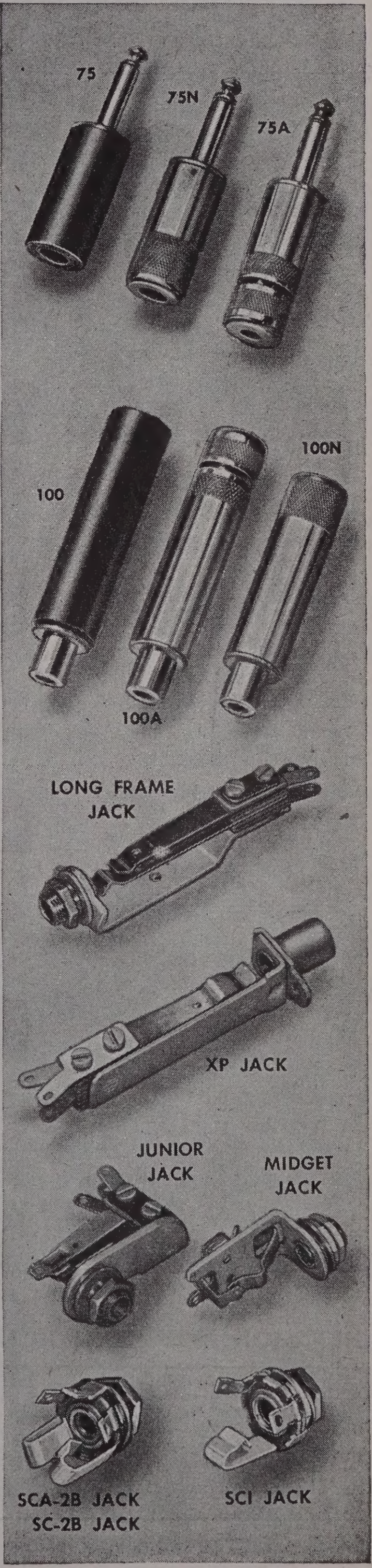
	Cat. No.	List Price
	XP1	$0.80
	XP2B	.90
	XP3B	1.20

JACKS—Signal Corps

No. SC-1A Phone Jack—Equivalent of Signal Corps Jack No. JK-34A. Same spring arrangement as No. 1 Long Frame Jack (see above). Designed to receive following plugs: Mallory No. 75, Western Electric Nos. 47A and 47B, Signal Corps Nos. PL-47, PL-48, PL-55, PL-148, PL-155.
List Price **$0.50**

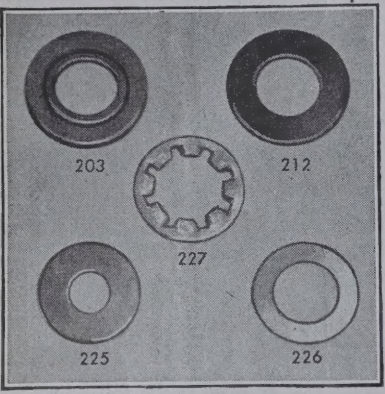
No. SCA-2B Microphone Jack—Equivalent of Signal Corps Jack No. JK-33A. Same spring arrangement as No. 2B Long Frame Jack (see above). Designed to receive following plugs: Western Electric No. 109 and Signal Corps Nos. PL-46, PL-68 and PL-168.
List Price **$0.60**

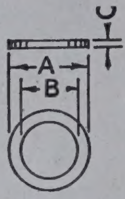
The two springs in the microphone jacks are located 120° apart, assuring definite pressure and positive electrical contact between the ground sleeve and bushing.



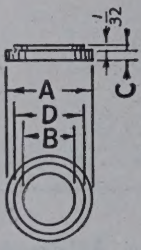
P. R. MALLORY & CO. Inc.
MALLORY

Knobs · Nuts Washers · Screws





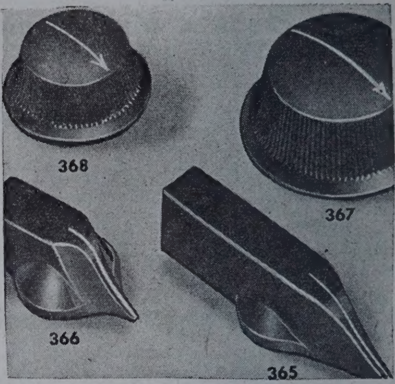
Cat. No.	A	C	C
Bakelite 203	¾	⅜	1/16
Brass 225	⅝	⅜	.040
226	⅝	7/16	.040



Cat. No.	A	B	C	D
203	¾	⅜	1/32	½

INSULATING WASHERS

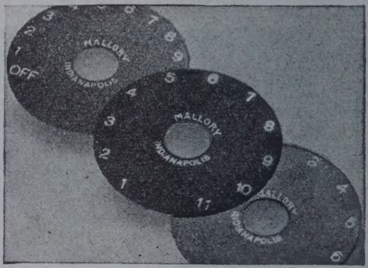
Description and Dimensions	Catalog No.	List Price Per 10
Extruded Washer—Fiber—¾ O. D. x ⅜ I. D. x 1/16; Extruded ½ x 1/32 For Set See No. 212 Flat Washer.	**203**	**$.30**
Flat Washer—¾ O. D. x ⅜ I. D. x 1/32; Bakelite	**212**	**.20**
Metal Washer—Nickel Finish—⅝ O. D. x ⅜ I. D. .040 Brass	**225**	**.20**
Metal Washer—Nickel Finish—⅝ O. D. x 7/16 I. D. .040 Brass	**226**	**.20**
Lock Washer—Cadmium Plated Steel—11/16 O. D. x 25/64 I. D.	**227**	**.20**



BAR AND ROUND BAKELITE KNOBS

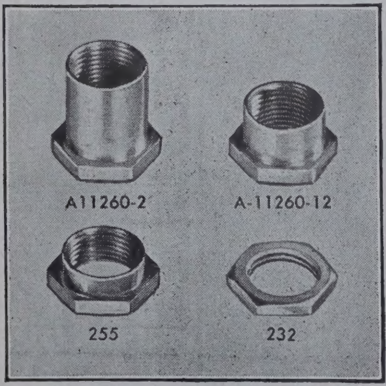
Description	Catalog No.	List Price
2¼" Bar Type Knob, Black	**365-1**	**$0.25**
2¼" Bar Type Knob, Red	**365-R-1**	**.25**
1¼" Bar Type Knob, Black	**366-1**	**.20**
1¼" Bar Type Knob, Red	**366-R-1**	**.20**
1½" Dia. Round Knob, Black	**367-1**	**.25**
1⅛" Dia. Round Knob, Black	**368-1**	**.20**

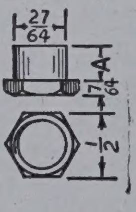
ETCHED DIAL PLATES

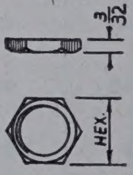


For Mallory Circuit Selector, Tap and All-Wave Switches.

Marking	For all Switch types 1200L, 1300L and 1¼" base 3100J, 3200J. 30 degree spacing between numerals.	Fo all type 3100J, 3200J Switches with 1 11/16" base. 20 degree spacing between numerals.	List Price
	Cat. No.	**Cat. No.**	
1 to 2	**372**	. . .	**$0.20**
1 to 3	**373**	**453**	**.20**
1 to 4	**374**	**454**	**.20**
1 to 5	**375**	**455**	**.20**
1 to 6	**376**	**456**	**.20**
1 to 7	**377**	**457**	**.20**
1 to 8	**378**	**458**	**.20**
1 to 9	**379**	**459**	**.20**
1 to 10	**380**	**460**	**.20**
1 to 11	**381**	**461**	**.20**
1 to 12	**382**	**462**	**.20**
1 to 13	. . .	**463**	**.20**
1 to 14	. . .	**464**	**.20**
1 to 15	. . .	**465**	**.20**
1 to 16	. . .	**466**	**.20**
1 to 17	. . .	**467**	**.20**
1 to 18	. . .	**468**	**.20**
Off 1 to 2	. . .	**472**	**.20**
Off 1 to 3	**383**	**473**	**.20**
Off 1 to 4	**384**	**474**	**.20**
Off 1 to 5	**385**	**475**	**.20**
Off 1 to 6	**386**	**476**	**.20**
Off 1 to 7	**387**	**477**	**.20**
Off 1 to 8	**388**	**478**	**.20**
Off 1 to 9	**389**	**479**	**.20**
Off 1 to 10	**390**	**480**	**.20**
Off 1 to 11	. . .	**481**	**.20**
Off 1 to 12	. . .	**482**	**.20**
Off 1 to 13	. . .	**483**	**.20**
Off 1 to 14	. . .	**484**	**.20**
Off 1 to 15	. . .	**485**	**.20**
Off 1 to 16	. . .	**486**	**.20**
1 to 24	**394 Special** 15° Spacing	. . . Between Nu	**.20** merals







Cat. No.	A	Hex.	Thread
255	7/64	½	-⅜32
A 11260-2	15/32	½	⅜-32
A 11260-12	15/32	½	⅜-32
232		½	⅜-32

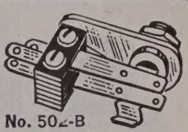
HEXAGON MOUNTING NUTS

Description	Thread	Dimension	Catalog No.	List Price
Flat Hex Mounting Nut	⅜-32	½ x 3/32	**232**	**$0.15 per 10**
Hex Mounting Nut	⅜-32	½ x 7/64 x 7/64 shoulder nut	**255**	**.15 each**
Hex Mounting Nut	⅜-32	½ x 7/64 x 15/32 shoulder nut	**A-11260-2**	**.25 each**
Hex Mounting Nut	⅜-32	½ x 7/64 x 7/32 shoulder nut	**A-11260-12**	**.20 each**

utah — CARTER PARTS

LONG AND SHORT JACKS

No. 103



No. 502-B

SHORT JACKS

Utah-Carter short jacks are small and compact, but do a full sized job. Depth behind panel is cut down by placing the tempered nickel-silver springs parallel to the panel. High quality sheet bakelite and tubular ebonite insulators are used throughout: No paper or fibre used in Utah-Carter jacks. Supplied with nickel-plated hex, mounting nut and nickel-plated washer.

LONG JACKS

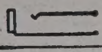
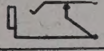
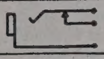
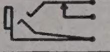
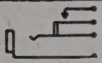
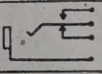
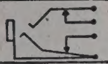
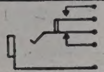
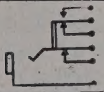
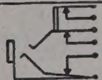
The original long jacks adapted from telephone switchboard jacks. Long rugged phosphor-bronze springs parallel to the plug axis give precise action. These jacks take minimum panel mounting space, less than the short jacks.

Supplied with nickel-plated hex. shoulder mounting nut and nickel-plated washer.

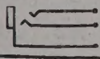
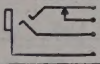
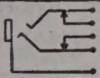
Short and long jacks mount in single ⅜" hole in panels up to $\frac{5}{16}$" thick. Fit of the plug in the jack is not affected by the thickness of the panel. Fit all standard plugs in two-and three-conductor types. Strong bright cadmium plated steel frame.

All contacts between springs are fine silver, giving minimum contact resistance.

For 2-Conductor Plugs, with Tip and Sleeve Only

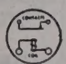
Circuits	Stock Nos.	Contact Arrangement	Long Jacks			Short Jacks		
			Stock No.	List Price	**Net Price**	**Stock No.**	List Price	**Net Price**
	**1—101** **501**	Open circuit	**101**	$0.50	**$0.30**	**501**	$0.40	**$0.24**
	**502**	Single closed circuit	**102**	.60	**.36**	**502**	.55	**.33**
	**2A** **102A** **502A**	Break contact on tip spring	**102-A**	.60	**.36**	**502-A**	.55	**.33**
	**133** **533**	Sleeve spring; break contact on tip spring	**133**	.70	**.42**	**533**	.65	**.39**
	**103** **503**	Separate make contact springs	**103**	.70	**.42**	**503**	.65	**.39**
	**103A** **503A**	Break-make contacts on tip spring	**103-A**	.70	**.42**	**503-A**	.65	**.39**
	**104** **504**	Sleeve spring; break contacts on tip and sleeve springs	**104**	.70	**.42**	**504**	.75	**.45**
	**104A** **504A**	Break contact on tip spring; separate make contact springs	**104-A**	.80	**.48**	**504-A**	.75	**.45**
	**105** **505**	Break contact on tip spring; separate break-make contact springs	**105**	.90	**.54**	**505**	.85	**.51**
	**106** **506**	Sleeve spring; break contacts on tip and sleeve springs; separate break contact springs	**106**	1.00	**.60**	**506**	.95	**.57**

For 3-Conductor Plugs—With Tip, Ring and Sleeve—(2-Button Microphone, Etc.)

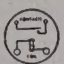
Circuits	Stock Nos.	Contact Arrangement	Long Jacks			Short Jacks		
			Stock No.	List Price	**Net Price**	**Stock No.**	List Price	**Net Price**
	**2B** **102B** **502B**	Open circuit	**102-B**	.60	**.36**	**502-B**	.55	**.33**
	**103B** **503B**	Break contact on tip spring ·	**103-B**	.70	**.42**	**503-B**	.65	**.39**
	**104B** **504B**	Break contacts on tip and ring springs	**104-B**	.80	**.48**	**504-B**	.75	**.45**

UTAH SENSITIVE D.C.RELAYS—PLUG-IN TYPE

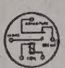
Low-priced, high quality plug-in relays. Dustproof, tamperproof, accurately adjusted for reliable operation, sealed in vibrator-type zinc housing, 3⅛" x 1½".



Types RA-A- "Break" Contacts (Normally Closed)



Types RA-B- "Make" Contacts (Normally Open)



Types RA-C- "Break-Make" Contacts (Single Pole Double Throw)

CAREFULLY ENGINEERED: Ratings overlap: For reliable operation from 1.2 to 120 volts or from 6 to 516 M.A., D.C., select relay from list.

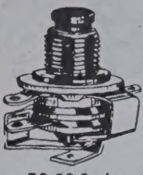
CONTACTS: Fine silver for minimum contact resistance. 5 amperes, 115 volts A.C. non-inductive loads. For D.C. and inductive A.C. loads, arcing reduced by connecting 0.1 to 2 M.F. across contacts, with 10 to 500 ohms in series with condenser.

Stock No.	Contacts	List Price	Net Price
	2-Volt Relays—15 Ohms—1.2 to 7.75 volts—80 to 516 M.A.		
RAA-2	Single Break, normally closed	$2.25	**$1.35**
RAB-2	Single Make, normally open		
RAC-2	Single Break-Make, S.P.D.T.		
	6-Volt Relays—90 Ohms—3.15 to 19 Volts—35 to 210 M.A.		
RAA-6	Single Break, normally closed	2.25	**1.35**
RAB-6	Single Make, normally open		
RAC-6	Single Break-Make, S.P.D.T.		
	32-Volt Relays—1000 Ohms—12 to 63 Volts—12 to 63 M.A.		
RAA-32	Single Break, normally closed	2.50	**1.50**
RAB-32	Single Make, normally open		
RAC-32	Single Break-Make, S.P.D.T.		
	110-Volt Relays—3000 Ohms—18 to 120 Volts—6 to 40 M.A.		
RAA-110	Single Break, normally closed	3.00	**1.80**
RAB-110	Single Make, normally open		
RAC-110	Single Break-Make, S.P.D.T.		

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

utah — CARTER PARTS

IMP PUSHBUTTON SWITCHES



IS-30 Series

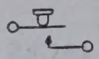
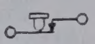
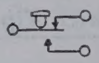
These switches are similar in general construction to the widely popular Utah - Carter Imp Short Jacks. Finest nickel-silver springs with integral contacts. High grade phenolic insulation. Body, nuts and washers bright nickel plated. Red or black Kolonite 1-piece shaft and button. Springs fully insulated from the mounting bushing and shaft. Made in three circuit arrangements:

IS-10 Series: "Make" contact, single circuit normally open.

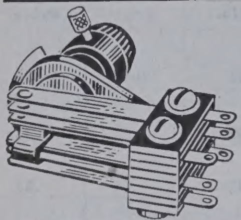
IS-20 Series: "Break" contact, single circuit normally closed.

IS-30 Series: "Break-Make" contacts, single circuit, double-throw.

Description:—One-piece combined shaft and pushbutton. Mount in ⅜" hole in panel up to $\frac{7}{32}$" thick. Supplied with one nickleplated hex nut and washer.

Circuit	Contact Arrangement	Red Pushbutton Stock No.	Black Pushbutton Stock No.	List Price	Net Price
	"Single Make"	**IS-11**	**IS-13**	$0.75	**$0.45**
	"Single Break"	**IS-21**	**IS-23**	$0.75	**$0.45**
	One "Break-Make"	**IS-31**	**IS-33**	$0.75	**$0.45**

UTAH-CARTER ROTARY LONG AND SHORT JACK SWITCHES



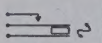
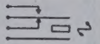
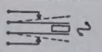
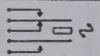
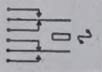
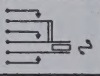
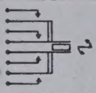
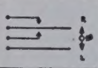
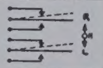
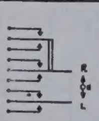
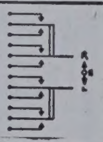
Rotary Two and Three Position—Long and Short Types.

SHORT JACK SWITCHES
Similar in design to Utah-Carter short jacks, these switches are small and compact.

LONG JACK SWITCHES
Similar in design to Utah-Carter long jacks, these are full-size switches, but take less panel space than the short jack switches.

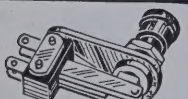
All rotary jack switches supplied with knob and pointer screw, one nickel-plated hex. mounting nut and nickel-plated washer. Fit ⅜" hole in panels up to ¼" thick. All electrical parts fully insulated from frame.

Circuits

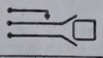
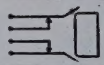
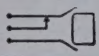
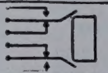
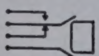
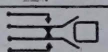
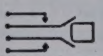
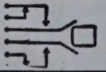
	22 322		33 333
	44 344		55 355
	66 366		660 306
			880 388
	77 333-B		88 366-B
	90 399-B		120 312-B

TWO POSITION Contact Arrangement	Long Jack Switches **Stock No.**	 List Price	 **Net Price**	Short Jack Switches **Stock No.**	 List Price	 **Net Price**
Single make (SPST)	**22**	$0.75	**$0.45**	**322**	$0.70	**$0.42**
Single break-make (SPDT)	**33**	.90	**.54**	**333**	.85	**.51**
Two makes (DPST)	**44**	1.00	**.60**	**344**	.95	**.57**
One break-make, one make (1-SPDT-1-SPST) (Normally Open)	**55**	1.15	**.69**	**355**	1.10	**.66**
Two break-makes (2-SPDT)	**66**	1.25	**.75**	**366**	1.25	**.75**
Three makes (3-SPST—Normally Open)	**660**	1.25	**.75**	**306**	1.25	**.75**
Four makes (4-SPST—Normally Open)	**880**	1.60	**.96**	**388**	1.60	**.96**
THREE POSITION						
Single pole double throw, center off	**77**	$0.90	**$0.54**	**333-B**	$0.85	**$0.51**
Two pole double throw, center off	**88**	1.25	**.75**	**366-B**	1.20	**.72**
Three pole double throw, center off	**90**	1.60	**.96**	**399-B**	1.55	**.93**
Four pole double throw, center off	**120**	2.00	**1.20**	**312-B**	1.95	**1.17**

SHORT PUSH-BUTTON SWITCHES—Non-Locking and Locking Types



Silver contacts for minimum resistance. High-quality nickel-silver springs. Bright cadmium-plated steel frame. Highest quality insulation used throughout. Mount in single ⅜" hole in panels up to $\frac{5}{32}$". Supplied with ½" polished black bakelite button and set-screw, one nickel-plated hexagonal mounting nut and washer.

Circuits	Contact Arrangement	**Non-Locking Type**	**Locking Type**	List Price	**Net Price**	Circuits	Contact Arrangement	**Non-Locking Type**	**Locking Type**	List Price	**Net Price**
	Single Make Contact	**422-M**	**422-AM**	$0.90	**$0.54**		Two Break Contacts	**444-B**	**444-AB**	**$1.20**	**$0.72**
	Single Break Contact	**422-B**	**422-AB**	$0.90	**$0.54**		Two Break-Make Contacts	**666**	**666-A**	**$1.50**	**$0.90**
	SingleBreak-Make Contact	**433**	**433-A**	$1.00	**$0.60**		Combination Break One and Make Two Contacts	**555**	**555-A**	**$1.50**	**$0.78**
	Two Make Contacts	**444-M**	**444-AM**	**$1.20**	**$0.72**		Two-Make Before-Break Contacts	**676**	**676-A**	**$1.65**	**$0.99**

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

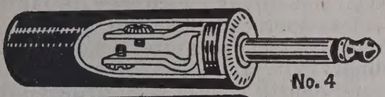
utah — CARTER PARTS

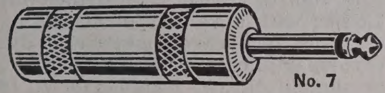
TWO-CONDUCTOR PLUGS

Tip and sleeve circuits; fit standard 2-conductor jacks. New types now stocked for wide range of uses. For headphones, microphones, speakers, musical instruments, medical and test equipment, many others.

Molded Bakelite Handles: Now stocked in both red and black as listed. Metal Shield Handles: Bright nickel-plated, with internal 2-layer high-quality tubular insulators, preventing short-circuits in handle.

TU-WAY PHONE PLUGS


No. 4


No. 7

A general-purpose type popular for years. Terminals flat with grooves for one or two phone tips, terminals or wires. Broad-headed knurled binding screws with screw driver slots. Handles $\frac{11}{16}$" diameter, $2\frac{1}{16}$" long.

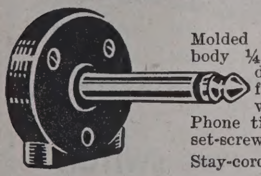
	LIST	NET
No. 4—Black bakelite handle..	$0.60	**$0.36**
No. 13—Red bakelite handle....	.60	**.36**
No. 7—Shield handle	.90	**.54**

ONE-WAY PLUGS

Spring-grip terminals for one pair phone tips. No set screws. Stay-cord anchor. Handles $\frac{11}{16}$" diameter, 1½" long.

	LIST	NET
No. 3—Black bakelite handle..	$0.70	**$0.42**
No. 19—Red bakelite handle....	.70	**.42**

No. 2 FLAT PLUG



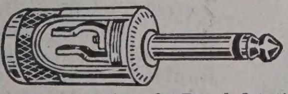
Molded black bakelite body ¼" thick, $1\frac{1}{8}$" diameter. Ideal for panel or wall-plate.

Phone tips gripped by set-screws.

Stay-cord anchor.

	LIST	NET
No. 2 Flat Plug.......................	$0.85	**$0.51**

No. 16 SHIELDED PLUG



For plain or shielded cords. Broad flat tinned soldering terminals. Shield handle $\frac{11}{16}$" diameter, 1" long.

	LIST	NET
No. 16 Shielded Plug	$0.85	**$0.51**

No. 17 SHIELDED PLUG

Designed for cords with center conductor and braided return-conductor shield. Perfect anchoring; sleeve terminal bends to clamp shield braid after soldering in $\frac{5}{32}$" hole. Shield handle $\frac{11}{16}$" diameter, 1" long.

	LIST	NET
No. 17—Shielded Plug	$0.85	**$0.51**

No. 18 SHIELDED PLUG

Insulation $\frac{19}{64}$" wide between tip and sleeve. Used with 3-conductor jack, other 2-conductor plugs short "ring" spring to sleeve; this plug leaves it open, for circuit switching. Also fits 2-conductor jacks. Shield handle $\frac{11}{16}$" diameter, 1" long.

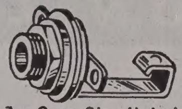
	LIST	NET
No. 18 Shielded Plug................	$0.90	**$0.54**

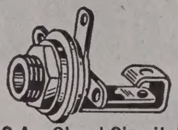
THREE-CONDUCTOR PLUGS

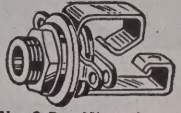
Tip, ring, and sleeve circuits; fit standard 3-conductor jacks. For 2-button microphones, or circuits of 3 wires or 2 wires and separate shield. Bakelite handles $\frac{11}{16}$" diameter, 1½" long. Shield handles $\frac{11}{16}$" diameter, 1" long, tubular insulator prevents short circuits.

	LIST	NET
No. 6—Black bakelite handle..	$0.85	**$0.51**
No. 23—Red bakelite handle....	.85	**.51**
No. 9—Shield handle	1.10	**.66**

IMP SHORT JACKS


No. 1—Open Circuit Jack


No. 2-A—Closed Circuit Jack


No. 2-B—Microphone Jack

Utah-Carter Imp Short Jacks are popular because they combine compact size, highest quality and economical price. Unique, patented design makes them the smallest jack fitting standard plugs. . . . The new No. 2-B Microphone Imp Short Jack now gives these same desirable features in a 3-conductor jack, having tip, ring and sleeve circuits . . . These jacks all have finest grade bakelite insulators, tempered nickel-silver springs, and bright nickel-plated threaded brass bushing. . . . Mount in single ⅜" hole in panels up to $\frac{3}{16}$" thick without insulating washers, or ⅛" with insulating washers. . . . Supplied with one ½" hexagonal nickel-plated mounting nut and washer, one flat and one swedged washer for $\frac{7}{16}$" panel hole.

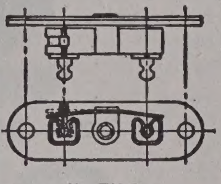
	LIST	NET
No. 1—Open Circuit Imp Short Jack—Has tip and sleeve circuits only. Electrical equivalent of Nos. 101 and 501........................	$0.30	**$0.18**
No. 2-A—Closed Circuit Imp Short Jack—Similar to No. 1, with an additional spring making contact with tip spring until plug is inserted. Electrical equivalent of Nos. 102-A and 502-A........................	.35	**.21**
No. 2-B—Microphone Imp Short Jack—A new 3-conductor jack, having tip, ring and sleeve circuits. Fits standard 3-circuit microphone plugs. Electrical equivalent of Nos. 102-Band 502B........................	.45	**.27**

DUAL TIP JACKS

Utah-Carter Dual Tip Jacks are rugged simple units designed to receive two standard phone tips. It is these jacks which have been so widely used by large radio manufacturers to provide phone-television sound connections to today's radio, or to provide earphone connection on the popular portable radios.

Dimensions: Length $2\frac{1}{16}$" overall; Width ⅝"; Depth $\frac{11}{16}$" overall; Mounting Centers $1\frac{11}{16}$".

Three circuit arrangements are available and are carried in stock.


No. TU-21

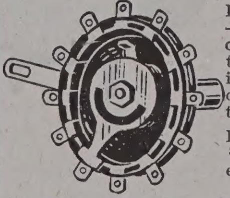
Stock No.	Circuit Arrangement	List	Net
TU-11	Open circuit type; simple receptacles only.	$0.25	**$0.15**
TU-21	Automatic Shunt. (Receptacles normally short-circuited to each other; short circuit removed when tip inserted in receptacle A, by means of small fibre lifter.)	$0.35	**$0.21**
TU-31	Closed Circuit Type. Similar to TU-21 but automatic shunt spring is permanently insulated from receptacle B, making it similar to No. 2A Jack switching action.	$0.40	**$0.24**

PORTABLE JACKS

Used on end of extension cord. Fit 2-conductor plugs. Screw terminals take one pair phone tips, terminals or wires. Handles $\frac{11}{16}$" diameter, $2\frac{1}{16}$" long. Shield handles have tubular insulator to prevent short circuits.

	LIST	NET
No. 12—Black bakelite handle..	$0.60	**$0.36**
No. 25—Red Bakelite handle....	.60	**.36**
No. 8—Shield handle	1.10	**.66**

IMP TAP SWITCH

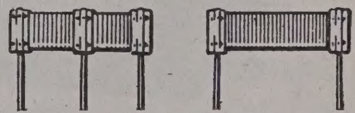


Positive snap action — strong wiping contact grounded to shaft and bushing. In operation contact breaks between makes.

Bushing length ⅜". Shaft $\frac{9}{16}$" from end of bushing.

Type	No. of Positions	List	Net
602	2 Points	$0.50	**$0.30**
603	3 Points	.50	**.30**
604	4 Points	.50	**.30**
605	5 Points	.50	**.30**
606	6 Points	.50	**.30**
607	7 Points	.50	**.30**
608	8 Points	.75	**.45**
609	9 Points	.75	**.45**
610	10 Points	.75	**.45**
611	11 Points	.75	**.45**
612	12 Points	.75	**.45**

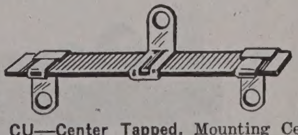
2½ WATT WIREWOUND RESISTORS



Precision Wound on Bakelite Forms. Size ½" x 1½" with 2½" Flexible Leads.

Stock Values in Ohms					
1	5	12	25	100	750
2	6	15	30	200	1,000
3	8	18	40	300	2,000
4	10	20	50	500	3,000

Type	LIST	NET
SH—Resistor	$0.20	**$.12**
SHC—Resistor, Center-tapped..	.25	**.15**



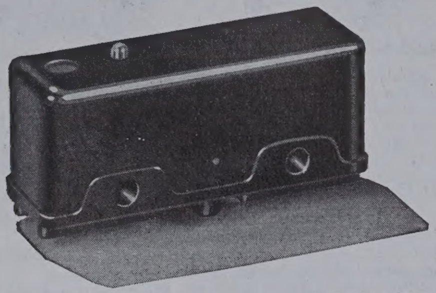
Type CU—Center Tapped. Mounting Centers End Terminals 1".

Stock Values in Ohms		
6	20	100
10	40	200
15	60	400

Type CU Resistor—
List Price $0.20....................**Net Price $0.12**

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

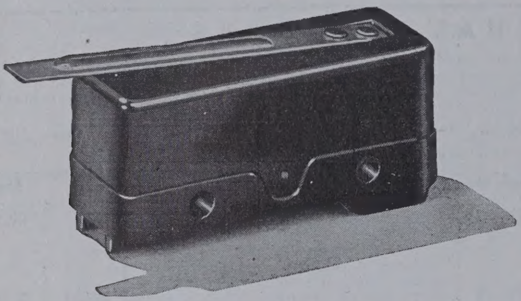
Acro Snap SWITCHES
FOR PRECISION CONTROL



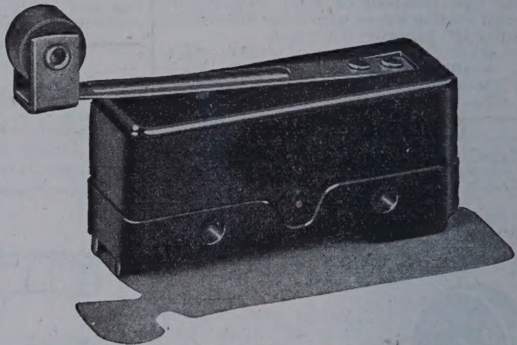
PIN PLUNGER TYPE 1A—ACTUATOR

Size: $1\frac{15}{16}$" x $\frac{11}{16}$" x $\frac{27}{32}$"

These three standard enclosed snap-action Acro switches operate on the roller spring principle giving instantaneous make and break. Features of this switch are: Frictionless operation, long life, low operating pressure, high contact pressure, small size, unaffected by ordinary vibration, easy installation. Weighs less than one ounce, plastic case drilled for two 6/32 screws. Comes with a variety of actuators, actuation pressures, gaps, overtravel, movement differential, to meet various applications. Normally open, normally closed or double throw. Rated 115 v. 10 amps. A.C.



5L—LEAF ACTUATOR

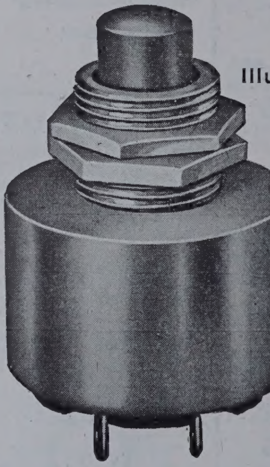


2M—ROLLER LEAF ACTUATOR

ACRO ELECTRIC CO.
CLEVELAND, OHIO
AcroSnap
PATENT NO. 2 237,705

ACRO MINIAC SNAP-ACTION SWITCH

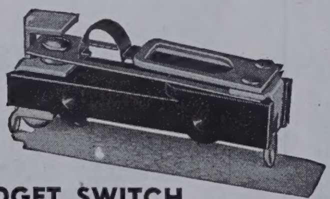
In keeping with demands for snap-action switches of smaller size and greater capacity Acro Electric Company has developed the new fully enclosed Miniac. Actual size is only $1\frac{3}{16}$" x $\frac{13}{16}$" x $\frac{17}{64}$". The bakelite case provides four 3/32" diameter mounting holes. Actuation is by a stainless steel pin plunger. Leaf type actuators can be attached to the case. Rating is 15 amperes at 115 volts A.C.



NUT TYPE SWITCH

Illustration 1½ Times Actual Size

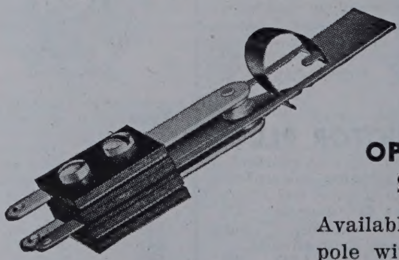
A new push-button type switch with a double break shorting bar feature for panel mounting applications. $\frac{29}{32}$" diam. Cadmium plated brass case with a sturdy threaded sleeve $\frac{15}{32}$-32. Normally open and normally closed circuits. Rating is 15 amps. at 115 volts A.C.



Actual Size

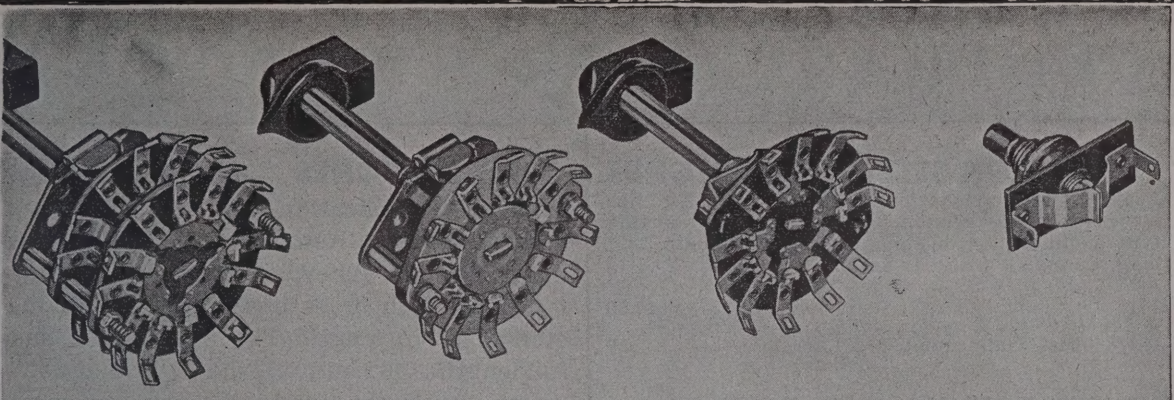
G5—MIDGET SWITCH

Designed to meet the need for a snap-action switch smaller than the standard Acro but with the same rating. Available as shown or with actuating pin at bottom.



OPEN BLADE SWITCH

Available in single or two pole with flat or curved blade. Dimensions are approximately $3\frac{1}{16}$" x $\frac{11}{16}$" x ½". Gap is .006". Rated 1500 watts, 115 volts, 15 amps. A.C.



CENTRALAB SWITCHES

SELECTOR SWITCHES WITH BAKELITE INSULATION

Catalog Number		Description			Price Each
Shorting	Non-Shorting	Poles	Positions	Sections	
1400	1401	1	2 to 6	1	$1.00
1402	1403	1	2 to 11	1	1.15
1404	1405	2	2 to 5	1	1.25
1406	1407	3	2 to 3	1	1.35
1408	1409	4	2	1	1.45
1410	1411	2	2 to 6	2	1.60
1412	1413	2	2 to 11	2	1.75
1414	1415	4	2 to 5	2	2.00
1416	1417	6	2 to 3	2	2.10
1418	1419	8	2	2	2.25
1420	1421	3	2 to 6	3	2.20
1422	1423	3	2 to 11	3	2.35
1424	1425	6	2 to 5	3	2.50
1426	1427	4	2 to 6	4	2.75
1428	1429	4	2 to 11	4	3.00
1430	1431	8	2 to 5	4	3.50

SELECTOR SWITCHES WITH STEATITE INSULATION

2500	2501	1	2 to 6	1	$1.70
2502	2503	1	2 to 11	1	1.70
2504	2505	2	2 to 5	1	1.70
2506	2507	3	2 to 3	1	1.70
2510	2511	2	2 to 6	2	2.70
2512	2513	2	2 to 11	2	2.70
2514	2515	4	2 to 5	2	2.70
2516	2517	6	2 to 3	2	2.70
2520	2521	3	2 to 6	3	3.90
2522	2523	3	2 to 11	3	3.90
2524	2525	6	2 to 5	3	3.90

TRANSMITTER SWITCH WITH 90° INDEXING

Cat. Number	Poles	Positions	Sections	Price
2542	1	2 to 4	1	$1.70
2543	2	2 to 4	2	2.70
2544	3	2 to 4	3	3.90
2545	4	2 to 4	4	4.90
2546	5	2 to 4	5	6.10

MANUFACTURED TO MEET THE MOST RIGID GOVERNMENT TEST

Assembled switches with self-cleaning double-wipe contact jaws of less than .002 ohm resistance. Index is positive with 30° between each rotating position. Choice of bakelite or steatite sections and rotors. Bakelite sections measure $1\frac{9}{16}$" between mounting centers. The first section is ½" behind the front plate, additional sections are spaced ½" on 2-section switches, 1" on 3- or 4-section switches. Brass bushing is ⅜" in diameter and ⅜" long. Metal shaft is 1⅞" long. Steatite sections are 5/32" thick. Other dimensions are the same as for bakelite switches. All types include bar knobs.

UNIVERSAL FLAT SWITCHES —

For single pole single throw, single pole double throw, double pole double throw, three pole single throw, three pole double throw, four pole single throw or four pole double throw use. 2¼" overall metal shaft, non-shorting teeth, bar knob included.

1450	$0.75
1451—With spring return	1.00

MOMENTARY PUSH SWITCHES

Rated 1 ampere at 110 volts alternating current. Contacts are phosphor bronze silver plated or steel, bushing is ⅜" insulated, length ⅜". Push button protrudes ½" from end of bushing.

1470—Momentary opened	$0.50
1471—Momentary closed	.50

23 POSITION SELECTOR SWITCHES

Features common terminal contact and 23 clips mounted on one section. 15 degree index, shorting type contact. ⅜″ bushing, ¼″ metal shaft 2¼″ long. Complete with bar knob.

1443	$2.50
K-173—Dial Plate, numbered 1 to 12	.20

LEVER ACTION SWITCHES — Low capacity space-saving switches used singly or in groups. Particularly adapted to broadcasting, receiving, public address, test instruments and individual uses. Available in ten different combinations including positive and spring return action types with either shorting or non-shorting contacts. Use shorting type contact for circuit switching, where contacting new contact before breaking old circuit will avoid noise. Further uses for this type of switch can be found in any application where multiple contact low capacity switches, are required to operate at low voltage and current.

Dimensions of single switch are ⅝″ width x 1⅞″ height x 1½″ depth behind panel. Types are listed below, all furnished with black knob and nuts and bolts for panel mounting. Each $1.00

Contacts		Description		Type of Index
Shorting	**Non-Shorting**	Poles	Positions	
1452	1454	2	3	Positive
1453	1455	2	3	Spring Return
1456	1457	4	2	Spring Return
1459	1458	4	2	Positive
1466	1467	2	3	Positive and Spring Return

TONE SWITCHES — So called because their chief application is in step-type tone control circuits. Actually they find use in many circuits. They are available in four types, all with brass bushing ⅜″ in diameter x ⅜″ in length. The metal shaft has full length .156″ mill, ¼″ diameter and 2⅛″ length. It can be cut to the required size, and is insulated from all terminals in all types. Index action is positive "saw tooth" type and all teeth are shorting to minimize clicks when rotated. These switches are limited to low voltage-current applications. The maximum recommended current is 1 ampere at 6 volts. Circuit combinations are as listed below:

1460—Single pole double throw or single pole single throw phonograph-radio switch. Use as tone and sensitivity control $0.50

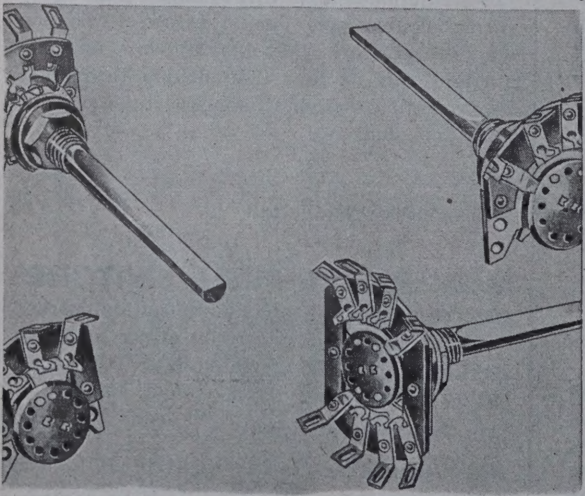
1463—One pole two position switch as above with spring return .... .65

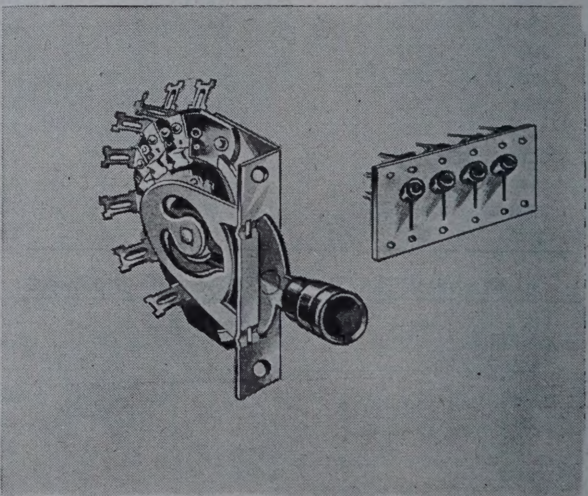
1461—Single pole three position selector switch. Use as tone control or P.A. channel selector .... .50

1462—Double pole double throw switch that may also be used as a single pole single throw or single pole double throw type. Use as inexpensive wave band switch, inter-office communication talk-back, meter reversing switch or for P.A. channel switchings .... .60

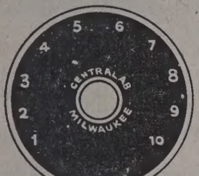
1464—Two pole two position switch as above with spring return .... .75

1473—Two pole three position tone switch, channel selector or inexpensive wave band switch. Similar to type 1462 but with one more position .... .75





CENTRALAB SWITCHES

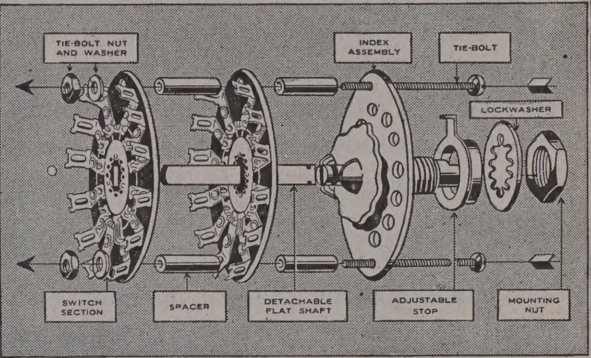


DIAL PLATES — Made of 24 gauge brass 1⅞″ in diameter. Black background, white numerals ⅛″ high for easy reading. 30° angle between numerals agrees with index action of all bakelite or ceramic selector switches.

Part Number	Numbered	Price
K-115	1 to 5	$ .15
K-116	1 to 6	.15
K-117	1 to 10	.15
K-118	1 to 11	.15

MOUNTING PLATES — To facilitate mounting of both single and multiple lever action switch combinations, a complete line of mounting plates is carried in stock. They are finished in black lacquer and range from single mounting to 5-gang mounting. The holes for panel mounting are furnished in either vertical or horizontal positions. The metal is of .035″ cold rolled steel, No. 1 temper, insuring lasting support. Dimensions of vertical and horizontal mounting holes are given below. Special plates can be supplied up to 40 switches in either steel or brass with nickel or cadmium plating. Special mounting holes can be furnished also.

Part No.	No. of Switches	Mounting Holes	A	B	Price
P1755	1	Vertical	¾″		$ .20
P1756	2	Vertical	1½″	¾″	.30
P1757	3	Vertical	2¼″	1½″	.35
P1758	4	Vertical	3″	2¼″	.45
P1759	5	Vertical	3¾″	3″	.50
P1760	2	Horizontal	2 3/16″	1⅝″	.30
P1761	3	Horizontal	2 15/16″	2⅜″	.40
P1762	4	Horizontal	3 11/16″	3⅛″	.50
P1763	5	Horizontal	4 7/16″	3⅞″	.55



SWITCH HARDWARE — Because there are many instances where special factors demand varied lengths between sections, a group of separate switch hardware, in addition to the regular switch kit parts, is listed below. The accompanying figure serves as an assembly instruction and identifies the various components used in assembling a selector switch. It is advisable to refer to it when ordering parts. By ordering from parts included in this group, switches with varying section spacing can be assembled up to lengths of 8 inches. A quantity of these parts on hand will often make just the switch you need for that emergency job.

Catalog Number	Description	Price Each	Price per Dozen
K-124	¼″ Spacer	$0.01	$0.10
K-125	⅜″ Spacer	.02	.20
K-126	½″ Spacer	.02	.20
K-127	¾″ Spacer	.03	.30
K-128	1″ Spacer	.03	.30
K-129	2″ Detachable Flat Shaft	.02	.20
K-130	3″ Detachable Flat Shaft	.02	.20
K-131	4″ Detachable Flat Shaft	.03	.30
K-132	5″ Detachable Flat Shaft	.03	.30
K-133	6″ Detachable Flat Shaft	.04	.40
K-134	7″ Detachable Flat Shaft	.04	.40
K-135	8″ Detachable Flat Shaft	.05	.50
K-136	1″ Tie Bolt	.01	.10
K-137	1½″ Tie Bolt	.015	.15
K-138	2″ Tie Bolt	.02	.20
K-139	2½″ Tie Bolt	.025	.25
K-140	3″ Tie Bolt	.03	.30
K-141	3½″ Tie Bolt	.035	.35
K-142	4″ Tie Bolt	.04	.40
K-143	5″ Tie Bolt	.05	.50
K-144	6″ Tie Bolt	.06	.60
K-145	7″ Tie Bolt	.07	.70
K-146	9″ Tie Bolt	.09	.90
K-147	Tie Bolt Nut	.01	.10
K-148	Tie Bolt Washer	.01	.10

CENTRALAB SWITCH KITS

The demand for selector switches includes so many different types that it is virtually impossible to maintain a complete stock of assembled switches. Selector switches are usually assembled with standard sections. The difficulty arises from the number of different ways that a small group of sections can be put together for the completed switch replacement part. To simplify the stocking of selector switches, Centralab has available two switchkit assortments of sections, hardware, and accessories. One of these includes bakelite sections and hardware; the other steatite sections and hardware. The parts included in each kit are tabulated below. Each assortment is packed in a sturdy cabinet; the drawer pulls include identification cards to show the location of the parts. The cabinet is supplied free with either kit. Complete kits shipped F.O.B. Milwaukee.

No. 414—Includes assortment of bakelite sections, index assemblies and accessories as listed below. These parts may be purchased separately at prices indicated. **Entire kit** **$100.00**

SECTIONS

Quantity in Kit	**Catalog Number**	Poles	Positions	Contact	**Price**
12	**A**	1	6	Shorting	**$ .40**
17	**B**	1	11	Shorting	**.55**
4	**C**	2	5	Shorting	**.65**
4	**D**	3	3	Shorting	**.75**
4	**E**	4	2	Shorting	**.85**
4	**F***	1	5	Shorting	**.60**
4	**G****	1	10	Shorting	**.75**
12	**H**	1	6	N.S.	**.40**
17	**J**	1	11	N.S.	**.55**
4	**K**	2	5	N.S.	**.65**
4	**L**	3	3	N.S.	**.75**
4	**M**	4	2	N.S.	**.85**
3	**N**		Use Together in		**.50**
3	**P**		Resistance Decade		**.50**
3	**Q**		Condenser Decade		**.60**
5	**R*****	2	5	Shorting	**1.00**
4	**S*****	3	3	Shorting	**1.00**

*Unused contacts shorted out on one side of common.
**All unused contacts shorted out.
***Steatite insulation.

INDEX ASSEMBLIES COMPLETE WITH HARDWARE

Quantity in Kit	**Catalog Number**	Description	**Price**
20	**K-121**	To assemble 1 or 2 gang switches........	**$ .55**
10	**K-122**	To assemble 3 or 4 gang switches........	**.75**
5	**K-123**	To assemble 5 or 6 gang switches........	**.95**

DIAL PLATES AND KNOBS

Quantity in Kit	**Catalog Number**	Description	**Price**
25	**K-120**	Bar Knob..............................	**$ .25**
10	**K-119**	Arrow Knob..........................	**.15**
10	**K-115**	Dial Plate; 1-5.........................	**.15**
10	**K-116**	Dial Plate; 1-6.........................	**.15**
10	**K-117**	Dial Plate; 1-10.......................	**.15**
10	**K-118**	Dial Plate; 1-11.......................	**.10**

No. 419—Kit includes assortment of steatite sections, index assemblies and accessories as listed below. Parts may be purchased separately at prices indicated at right. **Entire kit** **$100.00**

SECTIONS

Quantity in Kit	**Catalog Number**	Poles	Positions	Contact	**Price**
5	**T**	1	6	Shorting	**$1.00**
10	**U**	1	11	Shorting	**1.00**
4	**R**	2	5	Shorting	**1.00**
4	**S**	3	3	Shorting	**1.00**
4	**V**	4	2	Shorting	**1.00**
4	**X**	1	6	N.S.	**1.00**
4	**Y**	1	11	N.S.	**1.00**
4	**RR**	2	5	N.S.	**1.00**
4	**SS**	3	3	N.S.	**1.00**
4	**Z**	4	2	N.S.	**1.00**
6	**GG***	1	10	Shorting	**1.00**
15	**XX****	1	4	N.S.	**1.00**

*All unused contacts shorted out.
**90 degrees between positions—for transmitter switches.

INDEX ASSEMBLIES COMPLETE WITH HARDWARE

Quantity in Kit	**Catalog Number**	Description	**Price**
10	**K-121**	For 1 or 2 gang selector switches........	**$ .55**
10	**K-170**	For 1 or 2 gang transmitter switches....	**.55**
5	**K-222**	For 3 or 4 gang selector switches........	**.75**
5	**K-171**	For 3 or 4 gang transmitter switches....	**.75**
3	**K-123**	For 5 or 6 gang selector switches........	**.95**
3	**K-172**	For 5 or 6 gang transmitter switches....	**.95**

DIAL PLATES AND KNOBS

Quantity in Kit	**Catalog Number**	Description	**Price**
25	**K-120**	Bar Knob..............................	**$ .15**
10	**K-119**	Arrow Knob..........................	**.15**
5	**K-115**	Dial Plate; 1-5.........................	**.15**
10	**K-117**	Dial Plate; 1-10.......................	**.15**
5	**K-118**	Dial Plate; 1-11.......................	**.15**
12	**K-162**	1-4 Dial; 90 degree Index..............	**.20**

SMALL SWITCHES, LIMIT SWITCHES, AND MAGNETIC RELAYS

SMALL SNAP-ACTION SWITCH, G-E SWITCHETTE CR1070-C103

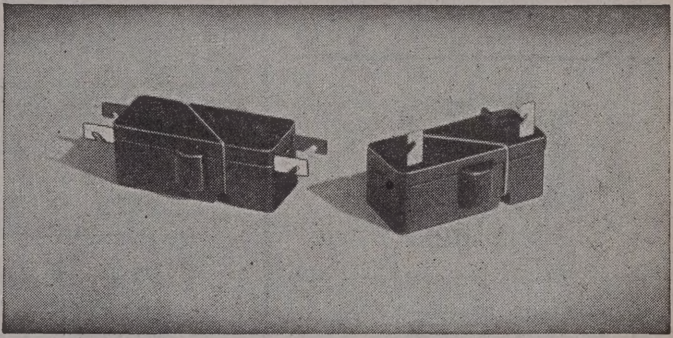
This new, lightweight switch mechanism lends itself especially to applications where space is limited and long life is required.

The Switchette is operated by movement of the spring-return button located in the housing. This button can be actuated by a lever, bellows, or other means. Snap-action, double-break-contact construction gives the G-E Switchette a high current rating and makes it suitable for applications where the vibration is severe.

FEATURES AND ADVANTAGES

1. Small (approximately 1¼ in. by ½ in. by ½ in.) and weighs only 9 grams (0.02 lb).
2. Resists vibration and corrosion.
3. Phenolic-resin operating button provides safety from live parts during operation.
4. Contact tips are 99.95 per cent pure silver.
5. Particularly suited to electronic applications because of negligible amount of contact bounce.
6. Two terminal arrangements are available, as shown above.
7. Wide variety of forms available, for example, three basic contact arrangements: single-circuit, normally open; single-circuit, normally closed; and two-circuit, normally open and normally closed. Also many special forms.

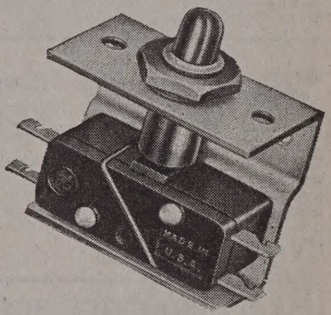
Switchettes are available in ratings up to 10 amperes at 115 or 230 volts a-c. Write for Bulletin GEA-3818.



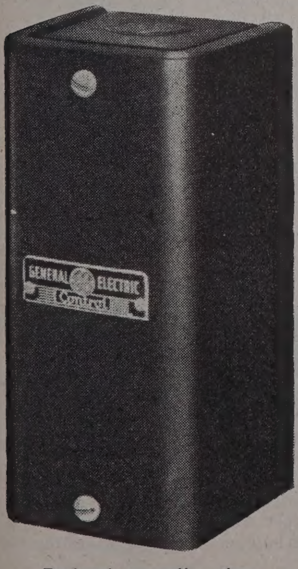
Switchettes having two terminal arrangements

LIMIT SWITCH, CR1070-D101

This sturdy, open-type limit switch is operated by a plunger which provides $\frac{7}{32}$-inch overtravel. The contact mechanism of this device is the G-E Switchette, which can be wired to control one normally open circuit and one normally closed circuit. Rated 10 amperes at 230 volts a-c.



Open-type limit switch with push-rod operation



Enclosed magnetic relay

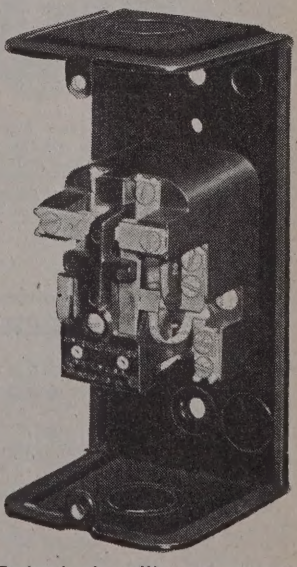
MAGNETIC RELAY, CR2790-E

The CR2790 relay is a compact, attractively finished device for use either as a motor starter or a relaying unit. Available in either an open form or enclosed in a general-purpose housing. Three contact arrangements available: single-pole, single-throw; double-pole single-throw; and double-pole, double-throw. In the open form, all three contact arrangements use the same base, which facilitates mounting. In the enclosed form, the U-shaped cover makes wiring and servicing convenient.

Applications

Control of pilot circuits in response to remote control switch or thermostat, or for direct control of small motors.

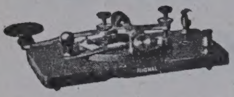
As a fractional-horsepower motor starter, or in conjunction with a magnetic switch controlling larger motors, heating or lighting circuits, and signal systems.



Enclosed relay with cover removed

WIRELESS INSTRUMENTS • SIGNAL • TELEGRAPH INSTRUMENTS

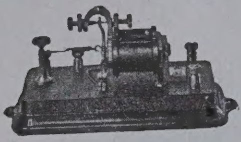
MANUFACTURERS OF ELECTRICAL PRODUCTS



112-K KEY

This key is designed for learners who want something that is scientifically correct but moderate in price. Has black enamel metal base and is mounted on a mahogany finished wood base. Key lever is nickel plated. Contact points are platinor.

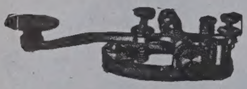
List $2.50



PONY RELAY

All the metal parts on this pony relay are brass with lacquer finish, excepting armature which is polished and plated steel. Magnets are non-adjustable. Mounted on a mahogany finished wood sub base and cast iron black enamel base.

	List
M-104— 4 Ohm	$6.50
M-105—20 Ohm	6.75
M-106—50 Ohm	7.00
M-107—75 Ohm	7.25

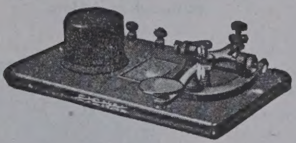


R-48 KEY

The beginner in the field of wireless approves this ¼ K. W. Key for its desirability and inexpensiveness. It is well made with polished key lever and lacquered parts. Contact points are platinor.

List $2.80

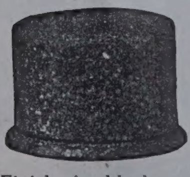
R-68 PRACTICE SET



Designed for those who want a well made instrument to learn the code. Set consists of a key and high frequency buzzer mounted on a mahogany finished wood base equipped with binding posts. The code is printed on a plate and fastened to the base between the key and buzzer. Buzzer is adjustable.

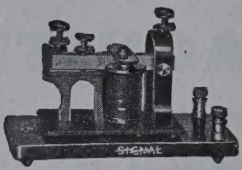
List $4.00

R-60 BUZZER



The R-60 high frequency buzzer is the same type used on the R-68 Wireless Practice Set. It is adjustable and has a standard resistance of 2 Ohms. Finish is black crystallized lacquer.

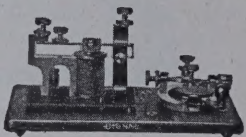
List $1.25



SOUNDER

The tone quality and instant action of this correctly designed sounder are well and widely known. All adjustments are simple and accurate. Bar frame is black enamel and has an aluminum sounding bar, brass bridge and black lacquered steel sounder plate. It is mounted on a mahogany finished wood base equipped with binding posts.

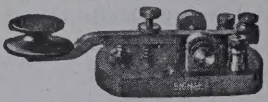
	List
112-S— 4 Ohm	$3.90
113-S—20 Ohm	4.15



LEARNER SET

On city, private and short lines learners will find this instrument easy to handle and having a clear, distinct tone. Bar frame and key base are black enamel, the bridge is brass, sounding bar is aluminum with black lacquered steel sounder plate. Key lever is nickel plated. Sounder and key are mounted on a mahogany finished wood base.

	List
M-110— 4 Ohm	$5.75
M-111—20 Ohm	6.00

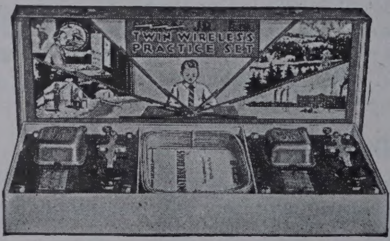


STANDARD KEY

This standard wireless key is designed to carry heavy currents. All brass construction with lacquer finish. Furnished with 3/16, ¼ or ⅜-inch coin silver contacts. Navy type key knob.

	List
R-62—3/16" contacts	3.50
R-63—¼" contacts	3.60
R-64—⅜" contacts	3.85

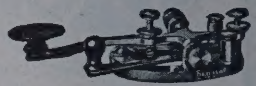
R-70 TWIN PRACTICE SET



In this practice set is represented value that appeals to the beginner. Set includes two R-69 instruments, 75 feet of wire and instruction manual packed in an attractive, illustrative box.

List $3.75

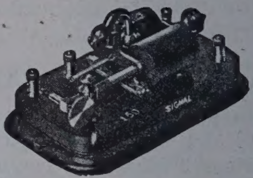
M-100 KEY



For rapid transmitting this key is preferred by skilled operators and beginners. The base, equipped with binding posts, is brass with a lacquer finish. Key lever is nickel plated. Furnished with platinor contact points.

List $3.40

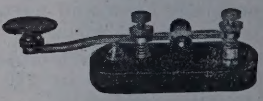
COMMERCIAL RELAY



The commercial relay is well designed and constructed for long, continuous service on commercial lines. Heel iron and armature are made of Norway iron. Has rubber covered adjustable coils. Mounted on mahogany finished wood sub base and cast iron black enamel base.

	List
916—150 Ohm	$15.00
917—250 Ohm	15.50

KEY R-50



For the amateur who wants an inexpensive, high grade wireless key, here is the proper instrument. It is equipped with a heavy, cast, well insulated base in a black finish, coin silver contacts, composition knob and nickel parts.

List $1.75

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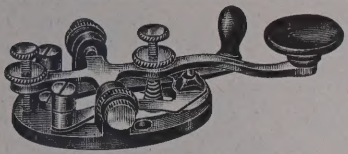
R-69 PRACTICE SET

The R-69 Practice Set is for those who want an inexpensive instrument. Consists of a key lever, non-adjustable buzzer and code plate mounted on a metal base equipped with binding posts and rubber feet. Has maroon finished base and gold lacquered key lever and buzzer cover.

List $1.75

J. H. BUNNELL

Telegraph Keys • Learner's Sets • Sounders • High Frequency Buzzers

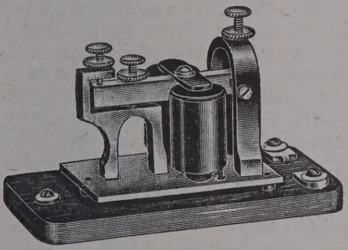


TRIUMPH KEY
No. 9050
Type 5-4

A commercial Telegraph Key on cast brass base with nickel plated steel lever. Has tungsten contacts and "Bug" lip of nickel silver. All brass parts are polished and lacquered.

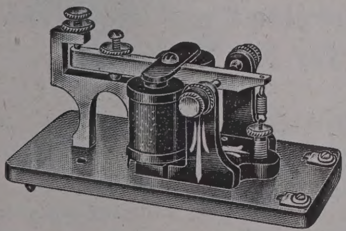
Used extensively by Western Union, Postal, and other communication companies. Can also be supplied with ⅛″ or ¼″ diameter silver points—polished and lacquered bronze lever and "Navy" knob or bronze nickel plated lever at additional charge. Shipping weight 1 lb.

No. 9050 Triumph Key with polished brass body.



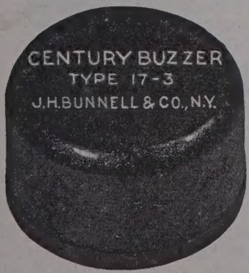
GIANT SOUNDER with Aluminum Lever
No. 500
Type 7-3

A commercial Telegraph Sounder with aluminum lever. Used extensively by Western Union, Postal and other communication companies. Sounder is supplied with brass base mounted on wood sub-base. Three brass pillars between the wood and brass base create a "sounding board" effect, giving loud, clear signals. Coils of sounder are furnished wound to any required resistance. State resistance required when ordering. Shipping weight—2 lbs. packed.



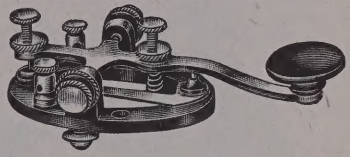
DANDY LEARNER'S SOUNDER
No. 776
Type 7-9

Same sounder as used on Dandy Morse Learner's Outfit, is mounted on wood base and has adjustable trunion screws as well as adjustable spring tension. Shipping weight—2 lbs. packed.



CENTURY HIGH FREQUENCY BUZZER
No. 9740
Type 17-3

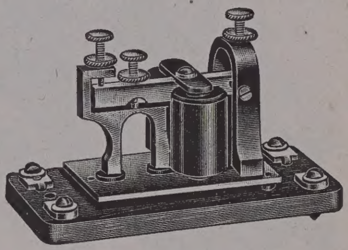
A high frequency Buzzer with adjustable tone control. Operates from 1 or 2 dry cells. May be supplied on either Buzzoplex or Blinko Buzzoplex at an additional charge.



BUNNEL Open Circuit Key No. 9037
Type 5-23

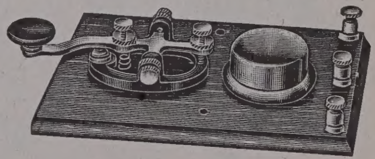
Front and Back Contact—Legless Key

When it is preferable to use dry cells instead of closed circuit cells this type of key is highly recommended. Even though a closed circuit is maintained for communication in either direction no current is being used except when key is depressed. Each individual station supplies its own current from local batteries.



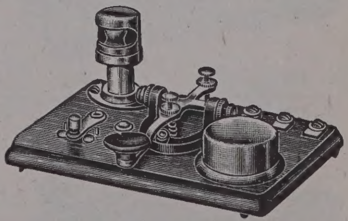
QUAD REPEATING SOUNDER with Rigid Points
No. 9109
Type 7-6

Similar in all respects to No. 500 aluminum lever sounder, but has in addition, a pair of auxiliary contacts in the anvil and sounder bar which are connected to two additional binding posts used to repeat the signal to another circuit or a local one. Coils furnished wound to any required resistance. Shipping weight—2 lbs. packed.



BUZZOPLEX
No. 8656
Type 17-1

This instrument consists of a No. 775 key and high grade buzzer mounted on a common base of birch, finished mahogany. Equipped with 3 binding posts to connect batteries and phones. Shipping weight — 3 lbs. packed.



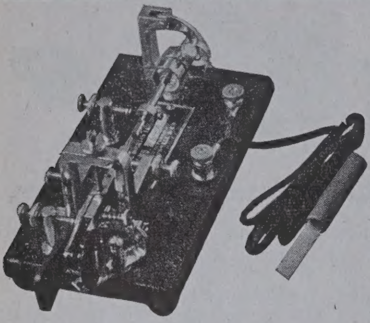
BLINKO BUZZOPLEX
No. 9028
Type 17-2

Same equipment as used on Buzzoplex, but with addition of lamp and switch. Used to give audible or visual signals. Shipping weight—3 lbs.

PRICES ON APPLICATION

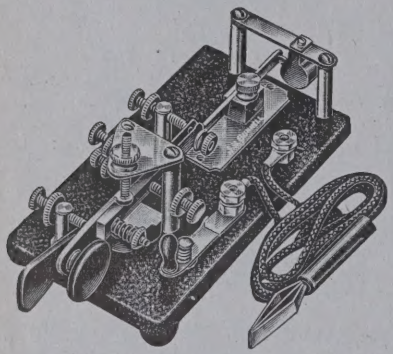
J. H. BUNNELL

Telegraph Keys • Learner's Sets • Sounders • High Frequency Buzzers



Bunnell Professional Flash Key #1
No. 800 — Type 5-48

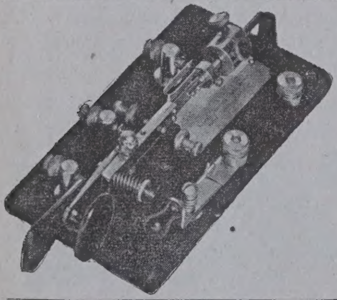
A handsome and efficient transmitting machine, with unlimited sending possibilities. Suitable for all classes of transmitting work where speed and perfect sending are prime essentials. THE OLD RELIABLE SINGLE LEVER KEY. Two pairs of large, coin silver contact points . . . one for dots, the other for dashes. Designed to meet the most exacting demands of professionals. Equipped with cord as illustrated. Base, 6⅜ x 3½ x ½ inches. 800—Black crackle finish.



Bunnell Professional Flash Key #6
No. 801 — Type 5-45

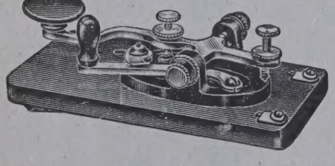
Experienced professional operators have acclaimed this model as the smoothest, fastest "bug" on the market, surpassing anything ever before achieved in any sending machine. Single lever with improved flat pendulum and instantly adjustable dot contact spring. Two pairs of large coin silver contact points . . . one for dots, the other for dashes. Equipped with cord as illustrated. Weight 3½ pounds. Base 6⅜ x 3½ x ½ inches.

801—Black crackle finish.



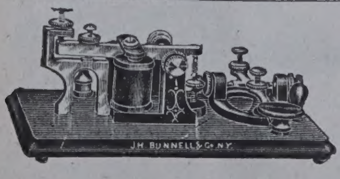
BUNNELL AMATEUR FLASH KEY
No. 803 — Type 5-46

The greatest value ever made available to amateurs. Sturdy construction. Single lever. Two pairs of coin silver contact points . . . one for dots, the other for dashes. Designed especially to meet the demands of amateur operators. Weight 2 pounds. Base, 6 x 3 x ⅜ inches. 803—Black crackle finish.



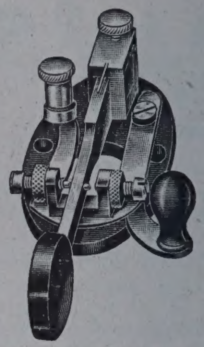
DANDY LEARNER'S KEY
No. 775 — Type 5-19

A substantial well designed key mounted on a black japanned cast iron base and wooden sub-base. Has steel nickel plated lever, adjustable brass trunion screws polished and lacquered. Spring tension screw and back screw and brass circuit closer which can be removed when key is used for radio operation. Shipping weight 1 lb. packed.


J.H. BUNNELL & Co. N.Y.

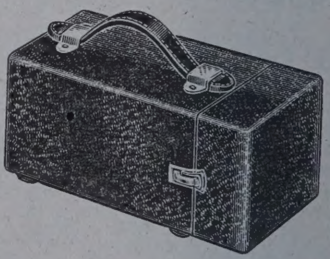
Dandy Morse Learner's Outfit No. 607 — Type 7-17

The same key and sounder as our No. 775 and 776 except mounted on common base and furnished with 2 Western Union type flat binding posts connected to key and sounder. Can be used singly as a learner's outfit or in pairs. Weight—2 lbs. packed.



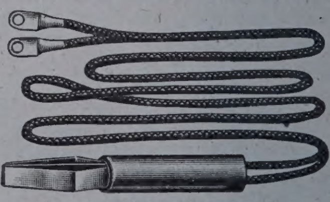
DOUBLE SPEED KEY
No. 5876 — Type 5-12

A non-automatic side action key on brass base. Lever is nickel plated and all brass parts are polished and lacquered. Supplied for telegraph work with circuit closer, which may be removed when key is required for radio use. Dots or dashes made on either side by pressing the lever right or left. In ordering, state whether for telegraph or radio use. Shipping weight—1 lb. packed.



Carrying Case - No. 5-165 for No. 800 or 801 Flash Key

Carrying case for No. 800 or No. 801 FLASH KEY — a sturdy lightweight case covered with imitation leather over wood frame, with hinged front. Shipping weight, 3 lbs. packed.



CORD AND WEDGE Set No. 5-183

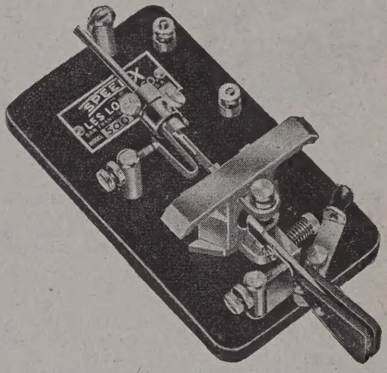
A 2½ foot cord with spring wedge on one end and round eyelet terminals on the other end. The springs of the plug are nickel silver securely held in place in a fibre tube with fibre insulation between springs. Shipping weight—6 ozs. packed.

Practice Sets Buzzers **SPEED-X** **Transmitting and High Speed Keys**

TELEGRAPH KEYS FOR EVERY PURSE AND PURPOSE

HIGH SPEED SEMI-AUTOMATIC KEYS

SPEED-X Semi-Automatic Keys are designed and constructed to rigid specifications and are approved by the experienced professional and amateur C. W. operators. They are fully adjustable from lowest to highest speeds. Manufactured in four distinctive and attractive models. Fully guaranteed against any defect in material or workmanship. Bases of all models drilled for stationary mounting.



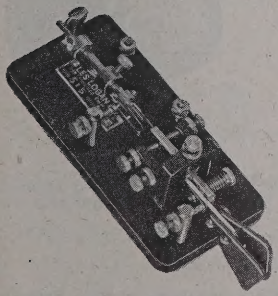
Nos. 500, 501

STANDARD MODEL No. 500. New-Improved Standard Model Semi-Automatic Key mounted on extra heavy steel base 3½ x 6¼'' x ½'' finished in attractive black wrinkle baked enamel. Mounted on four rubber feet to insure stationary position at all times. The finish will not scratch or chip and will last indefinitely. The frame is chromium finished and has five adjustments with lock nuts, assuring dependable operations at all speeds. Vibrator arm, posts, switch and all machine parts heavily plated in beautiful chromium. Complete with two adjustable weights, two sets ⅛'' pure silver contacts, circuit-closing switch and two paddles adjustable to any desired height. Net weight 4½ lbs.

No. 500	**List Price $13.50**
No 500-L (Left-handed model)	**List Price 15.50**
No 380—Cord and Plug—Extra	**List Price 1.00**

PROFESSIONAL MODEL No. 501. New-Improved Beautiful Polished Chromium Plated Heavy Steel Base 6¼'' x 3½'' x ½'' with four non-slip rubber feet. Heavy brass connector strips mounted under base. Frame is a Polished Chromium Brass Casting with five screws for sensitive adjustments. Vibrator is designed to obtain slowest and fastest speeds required by high speed operators. Two sets of ¼'' pure silver contacts. Pigtail connections to vibrating arm. Perfectly aligned free acting vibrator bearings. Lock nuts on all adjustments. Paddles adjustable to any required height. All machine parts heavily chrome plated, which makes this the most outstanding semi-automatic key on the market. Furnished with circuit closing switch. Net Weight 4½ lbs.

No. 501	**List Price $17.50**
No. 501-L (Left-handed model)	**List Price 19.50**
No. 380—Cord and Plug—Extra	**List Price 1.00**



No. 515

AMATEUR MODEL No. 515. Baked Black Crinkle Enamel Finished Steel Base 6¼'' x 3'' x ⅜'' with four rubber feet to prevent slipping or tilting. Heavy Brass connector strips. Die Cast Frame finished same as base with adjustable trunion screws. Chromium brass Vibrator has main spring and U-spring made of clock spring for smooth snappy action. Two adjustable weights. Two adjustable black fibre paddles. Two sets ⅛'' pure silver contacts. Lock nuts for every adjustment. Deadener wheel, posts, screws, springs and terminals polished chrome plated. Packed in attractive carton. Net Weight 3¼ lbs.

No. 515	**List Price $ 9.25**
No. 515-L (Left-handed model)	**List Price 11.25**
No. 380—Cord and Plug—Extra	**List Price 1.00**

JUNIOR MODEL No. 510. Die Cast Base 2¾'' x 6'' x ¾'' finished in black wrinkle baked enamel concealing heavy brass connector strips. Frame is same finish as base and all other parts are chromium plated. Vibrator Arm same as Standard model with lots of pep. Adjustable from eight words per minute to as high a rate as desired. Two sets of ⅛'' pure silver contacts, two adjustable weights and two adjustable paddles. Circuit closing switch mounted on base. Being small, compact and streamlined, this semi-automatic key is an outstanding value. A light-weight but sturdy built machine for clean-cut sending. Net Weight 2½ lbs.

No. 510	**List Price $10.75**
No. 380—Cord and Plug—Extra	**List Price 1.00**

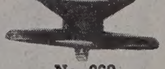
REPLACEMENT PARTS

No. 370

No. 330

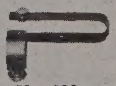
No. 335

	List		List
No. 330 Adjustable Weight	$0.25	**No. 362** ¾'' Chrome Screw	$0.13
No. 335 Key Springs	.10	**No. 363** 1'' Chrome Screw	.15
No. 336 Dash Spring	.10	**No. 364** ½'' Knurled Nut	.10
No. 340 Set ⅛'' Contacts	1.00	**No. 375** Vibrator Arm Comp.	3.00
No. 341 Set ¼'' Contacts	2.00	**No. 376** Vibrator Arm Only	1.75
No. 345 (2) ⅛'' Contacts	.20	**No. 370** Adjustable Paddle	.25
No. 346 (2) ¼'' Contacts	.50	**No. 380** Cord and Plug	1.00
No. 350 Knob	.20	**No. 390** U-Spring ⅛'' Contact	.60
No. 360 Navy Knob	.30	**No. 391** U-Spring ¼'' Contact	.75



No. 360

No. 350



No. 390

No. 444 KIT

An assortment of the best selling parts for all makes of keys, selected from the above list, and packed in a beautiful display box.

LIST PRICE OF COMPLETE KIT, $20.00

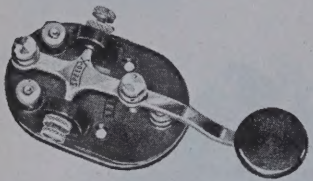
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Practice Sets Buzzers SPEED-X *Transmitting and High Speed Keys*

TELEGRAPH KEYS FOR EVERY PURSE AND PURPOSE

MOULDED BAKELITE KEYS, BUZZERS, PRACTICE SETS

SPEED-X Moulded Bakelite and Metal Hand Keys, Practice Sets and Buzzers are used throughout the world as standard equipment in amateur and commercial work. Each unit is built according to rigid specifications and is fully guaranteed. All models have holes for stationary mounting. Code card supplied with each individually packed unit.



No. 301

AMATEUR KEY No. 301—A general purpose key with moulded black bakelite base. Perfect insulation—adjustable smooth acting bearings — improved spring — nickel key arm — pigtail connections—no current on bearings—1/8'' pure silver contacts. Net Wt. 6 oz.

No. 301 .... **List Price $2.15**
No. 301-S with switch........ **List Price 2.50**
Add "L" for 1/4'' Contacts—Extra........ **List Price .25**

PRACTICE KEY No. 300—A well-built and inexpensive practice key for the beginner. Moulded Brown Bakelite base and knob. Spring bearings, perfect action, simple adjustments, 1/8'' pure silver contacts. All machine parts nickel plated. Standard Code card furnished. Net Wt. 5 oz.

No. 300 .... **List Price $1.50**

PRACTICE KEY No. 312—A standard spring adjustable hand key with 1/8'' pure silver contacts mounted on a moulded brown bakelite base 2 3/4'' x 5'' with circuit closing switch and terminal connections on base. Heavy base connector strips concealed under base. Key arm, switch and all machine parts nickel plated. Net Wt. 8 oz.

No. 312 .... **List Price $2.50**

PRACTICE SET No. 450—Consists of one constant frequency adjustable buzzer and a standard hand key with 1/8'' pure silver contacts mounted on a moulded brown bakelite light-weight base 6'' x 4''. Adjusting screws, key arm and all machine parts nickel plated. Light Spring for perfect keying. A complete sending and receiving set. Three hook-up diagrams on carton show how this Practice Set may be used singly for code practice and in pairs for point to point communications. Standard Code Card included. Net Wt. 12 oz.

No. 450 .... **List Price $2.75**

BUZZER
KEY
MODEL 450
PRACTICE SET
SPEED-X
SAN FRANCISCO
SPEED-X

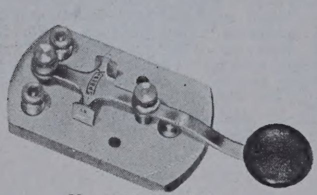
No. 450

CONSTANT FREQUENCY BUZZER No. 400—Moulded Black Bakelite Base and Cap eliminates insulation problems. Large pure silver contacts—precision parts hold adjustments. Additional adjustment on vibrator. Resistance 2 ohms. Operates on two dry cells or one "C" battery. A high quality buzzer for all purposes. Net Wt. 3 oz.

No. 400 .... **List Price $1.25**

No. 400

HEAVY DUTY METAL HAND KEYS



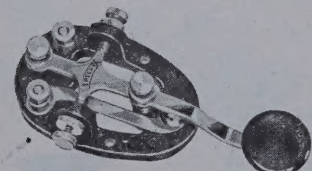
Nos. 300, 305, 306

METAL HAND KEY No. 305—An inexpensive metal base key with black wrinkled enamel finish. Smooth acting spring bearings and adjustable key arm spring. Key arm and all machine parts bright nickel finish. 1/8'' pure silver contacts. Net Wt. 10 oz.

No. 305 .... **List Price $1.75**
No. 306—Lacquered BRASS finish Base........ **List Price 1.75**

STANDARD Key No. 310—Heavy die cast base finished in black wrinkled enamel. Smooth adjustable bearings. 1/8'' pure silver contacts. Has provisions for plugging in our semi-automatic keys when desired. Net Wt. 9 oz.

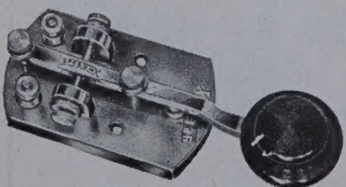
No. 310 .... **List Price $2.50**
No. 311—Chromium Base .... **List Price 3.00**
No. 316—Lacquered BRASS finish........ **List Price 2.50**
Add "L" for 1/4'' Contacts—Extra........ **List Price .25**



Nos. 310, 311, 316

STANDARD KEY No. 310-S—Same specifications as Standard model key No. 310 with circuit closing switch mounted on base. 1/8'' pure silver contacts. An attractive high-quality key. Net Wt. 10 oz.

No. 310-S .... **List Price $3.00**
No. 311-S—Chromium Base with switch........ **List Price 3.50**
No. 316-S—Lacquered BRASS finish with switch...... **List 3.00**
Add "L" for 1/4'' Contacts—Extra........ **List Price .25**



Nos. 320, 321, 326

HEAVY DUTY KEY No. 320—Black wrinkle enameled extra heavy Die Cast Base. Large sturdy chromium plated key arm with adjustable steel bearings. Heavy brass connector strip concealed under base. Well insulated for heavy duty work. Improved Navy Type Knob and 1/4'' pure silver contacts. Net Weight 12 oz.

No. 320 .... **List Price $3.50**
No. 321—Chromium Base .... **List Price 4.00**

HEAVY DUTY KEY No. 326—Same specifications as Heavy Duty Model No. 320 but base finished in a beautiful Lacquered BRASS finish. Arm and machine parts chromium plated. Well designed spring gives this model a light keying touch. Navy Type Knob and 1/4'' pure silver contacts. Net Wt. 12 oz.

No. 326 .... **List Price $3.50**

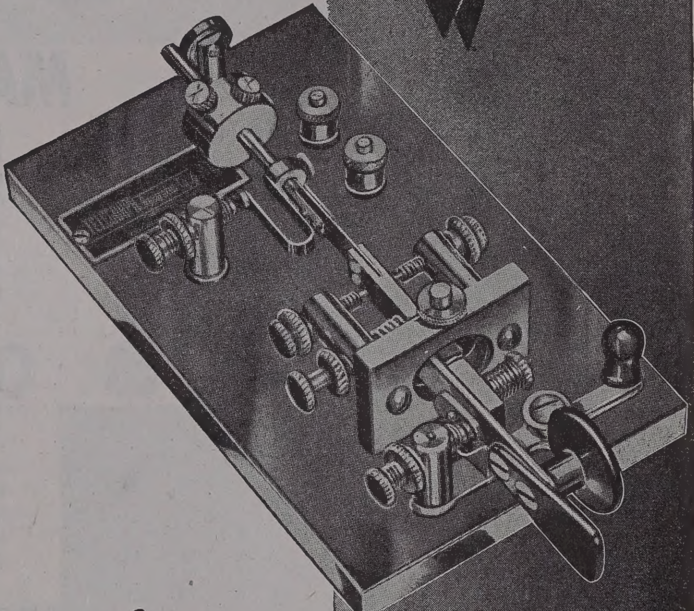
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

TELEGRAPH Apparatus Co.

Designed by
WORLD'S
CHAMPION
Radio
Telegrapher

DELUXE SPEED KEY

MODEL CP 810

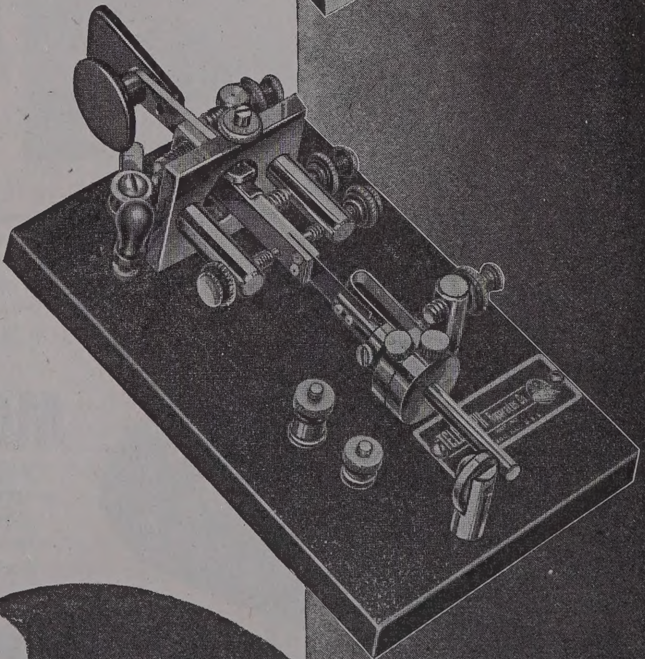


Finest commercial or amateur bug available. Chrome finished base and superstructure. Springs made of selected blue spring steel for uniform performance in all keys. Nine points of adjustment to suit the most critical touch. Fully adjustable. Silver contacts 3/16″ diameter.

Amateur Net Price..............$9.75

SPEED KEY

MODEL CP 510

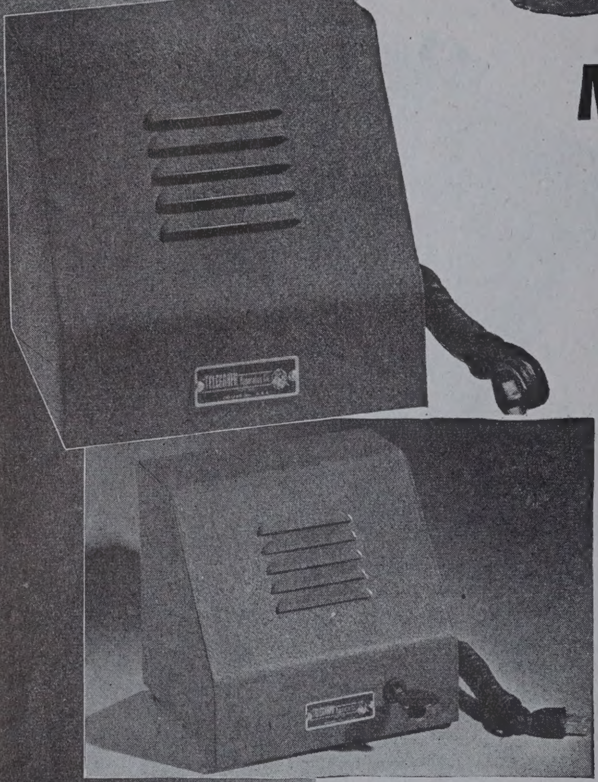


A high grade professional bug designed by World's Champion telegrapher. Battleship gray wrinkle finish and polished chrome. A masterpiece of precision craftsmanship. Silver contact points 3/16″ diameter. Springs, contacts and vibrating arm all fully adjustable.

Amateur Net Price..............$6.75

Designed by WORLD'S CHAMPION Radio Telegrapher

TELEGRAPH Apparatus Co.



MASTER OSCILLATONE

Designed for individual or class code-learning. Beautiful gray crackle finish steel cabinet. Continuously variable volume control, tone adjustable 500-1500 cycles. Terminals for head phones, and up to 300 phones may be used. Speaker may be on or off as desired. Operates on 110 V. AC or DC. A 117N7 tube is used.

MS-700—*With Tube.* Amateur Net Price, $11.85

CODE PRACTICE SET

An ideal practice set that is being used extensively by all branches of the armed forces for learning code and maintaining speed at inactive intervals. External connections are provided for additional keys and headphones. All of the features in the MS-700 are incorporated in this unit.

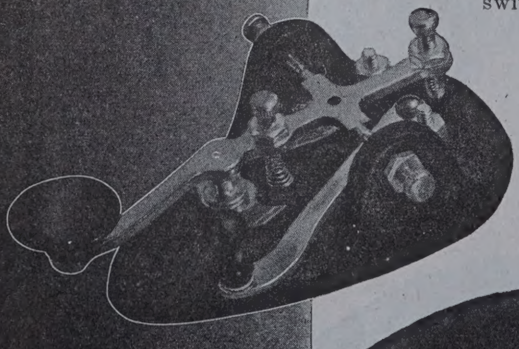
MS-700-P—*With Tube.* Amateur Net Price, $15.90

DELUXE HAND KEY

MODEL 300

Amateur Net Price
$3.45

Beautifully finished in polished chrome and nickel. Sturdy, well-balanced construction for smooth, effortless keying. 3/16″ diameter contacts, adjustable for tension, spacing, and bearing position. Circuit closing switch, is incorporated.



MODEL 200 HAND KEY

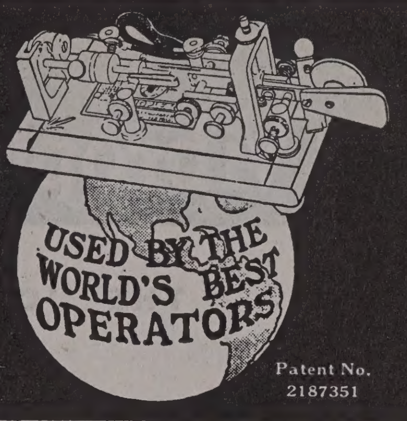
Right up to professional standard in performance and appearance. 3/16″ coin silver contacts. Accurately machined bearing screws. Black crackle finish metal base, with circuit-closing switch.

Amateur Net Price..........................$2.25

The Vibroplex

A SEMI-AUTOMATIC TELEGRAPH AND WIRELESS TRANSMITTING MACHINE

Embodying the latest exclusive features


USED BY THE WORLD'S BEST OPERATORS
Patent No. 2187351

Prominent features which have been contributed to the success of the Vibroplex are:

Simplicity • Durability
Perfect control • Easy adjustment
Strong carrier • Ease of manipulation
Adaptability to changing wire conditions
Ability to transmit perfect Morse and Continental signals at high speed

These features, which are found only in the genuine Vibroplex models illustrated on these pages, make for clear, rapid, easy transmission; relieve the arm of strain caused by sending on the ordinary key; rest and strengthen the overworked muscles, and prevent telegrapher's paralysis.

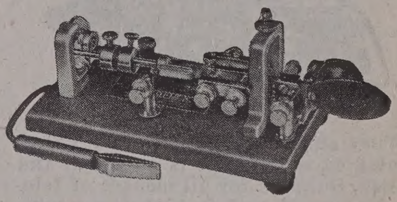
CLEAR, RAPID SENDING MADE EASY

The Vibroplex transmits the same grade of Morse and Continental code as the strongest clearest hand sender, faster than is possible on the ordinary key, and with less than half the labor.

There is no tensing of the muscles, no nerve strain, no pounding on the key in order to make clear, rapid signals. **You simply press the lever — the machine does the rest.**

THE "ORIGINAL" VIBROPLEX

Suitable for All Classes of Transmitting work Where Speed and Perfect Morse Are Prime Essentials



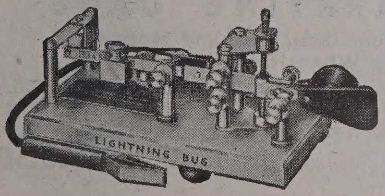
SPECIFICATIONS

Old style, single lever. Two pairs of contact points: one for dots, the other for dashes. Weight, 3 lbs. 8 oz. A handsome and efficient transmitting machine, with unlimited sending possibilities. Complete with cord and wedge. Finishes—Standard—Polished Chromium parts with black base.

Amateur Net Price	**$15.95**
DeLuxe—Polished Chromium, gray base and jeweled movement	**19.50**

THE "LIGHTNING BUG" VIBROPLEX

De Luxe Model



Amateur Net Price	**$13.95**
DeLuxe—Polished Chromium, gray base, and jeweled movement	**17.50**

One of the Latest Model Vibroplexes

Sending Ease Surpassing Anything Ever Achieved in Any Sending Machine

HIGH QUALITY SIGNALS AT ALL SPEEDS

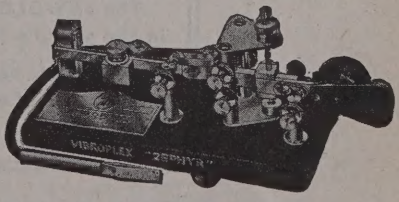
This great new Vibroplex is the smoothest and easiest working BUG ever made. It has won fame on land and sea for its clarity, precision and ease of manipulation. Can be slowed down to 10 words per minute or less or geared to as high rate of speed as desired. Maintains the same high quality signal at whatever speed, insuring easy reception under all conditions.

SPECIFICATIONS

Single lever, with improved flat pendulum, instantly adjustable dot contact spring, circuit breaker parallel with pendulum. Two pairs of contact points, one for dots, the other for dashes. Complete with cord and wedge. Weight 3 lbs. 8 oz. Finishes—Standard—Polished Chromium top parts with black base.

THE "ZEPHYR" VIBROPLEX

A Genuine Vibroplex. Slightly Lighter in Weight.
Having Plenty of "Pep" and "Power"



Smaller and more compact but designed in most details the same as the "Lightning Bug" model. Planned to meet the demand for a low priced, efficient and high speed transmitter for telegraph use.

SPECIFICATIONS

Single lever with standard size contact points. Mounted on slightly smaller base. Weight 3 lbs. 2 oz. Equipped with circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price	**$12.50**

All the Vibroplexes illustrated are now equipped with large 3/16 diameter contact points, which are the same diameter as furnished on special radio models selling heretofore up to $25.00

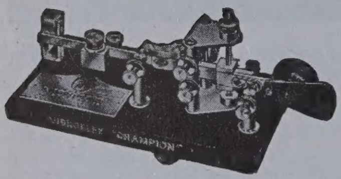
The Vibroplex

THE VIBROPLEX COMPANY INC
TRADE MARK

Telegraph & Wireless Transmitting Machines

THE "CHAMPION" VIBROPLEX

For Radio Use Only



Designed to Fulfill the Demand for a Low Priced Radio Transmitter

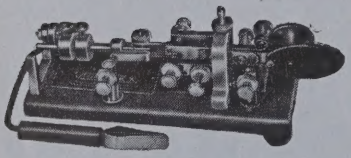
The new "Champion" is an inexpensive transmitter having exceptional sending qualities . . . clarity . . . speed . . . sending ease, which will appeal alike to amateur and professional radio operators. Designed to meet the demand for a low priced Vibroplex in the radio field.

SPECIFICATIONS

Single lever with two pairs of contact points. Mounted on large standard size base. Weight 3 lbs. 8 oz. Without circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price	**$9.95**

THE "BLUE RACER" VIBROPLEX



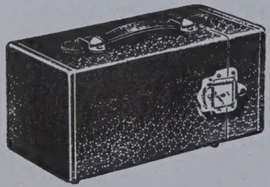
Very similar to the Original Vibroplex except that it is only half the size. Suitable for all classes of telegraph work and in high favor with wireless men.

Small and compact, the "Blue Racer" Vibroplex can be carried around and never be in the way. Embodies the same sending possibilities, the same carrying qualities, the same strength and durability as the larger models. Built especially to meet the demand of telegraphers requiring a small, lightweight and efficient sending machine.

SPECIFICATIONS

Single Lever. Two pairs of contact points—one for dots, the other for dashes. Weight, 2 lbs. 8 ozs. Complete with cord and wedge. Finishes—Standard—Polished Chromium top parts with black base.

Amateur Net Price	**$15.95**
DeLuxe—Polished Chromium, gray base and jeweled movement	**19.50**



VIBROPLEX CARRYING CASE

Keeps the Machine Free from Dust, Dirt and Moisture
Insures Safe-keeping When Not in Use

A cloth-lined case, finished in handsome simulated black morocco. Corners are reinforced, adding to its durability and attractiveness. A flexible leather handle makes it more convenient to carry. Has lock and key.

Amateur Net Price	**$3.50**

FOR A LIMITED TIME ONLY all of the DeLuxe Model Vibroplexes are furnished with patented JEWEL MOVEMENT, without additional charge.

This special introductory price is subject to change without notice.

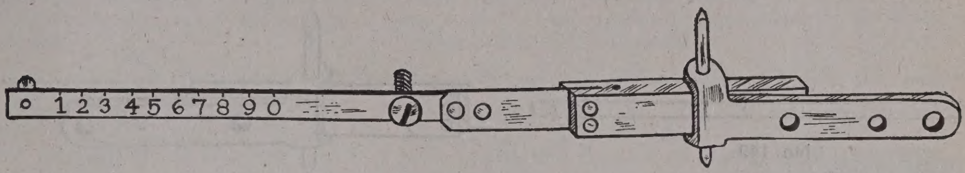
The JEWELS used in this Model Vibroplex are the same as placed in the world's finest precision made watches and instruments.

A JEWEL bearing main lever insures a "LIFETIME" of service and an ease of operation that can only be referred to as "FEATHER-TOUCH" sending.

All the Vibroplexes illustrated are now equipped with large 3/16 diameter contact points, which are the same diameter as furnished on special radio models selling heretofore up to $25.00

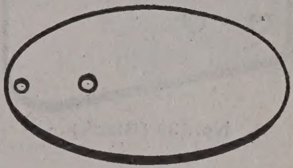
The Vibroplex

Telegraph & Wireless Transmitting Machines

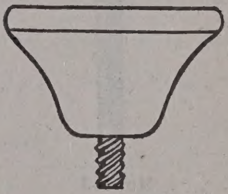


No. 150

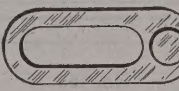
No.		Net Price
110	Left Main Frame Post for Lightning Bug, Champion and Zephyr	$0.35
111	Right Main Frame Post for Lightning Bug, Champion and Zephyr	.30
112	Dot Contact Post for Lightning Bug, Champion and Zephyr	.25
113	Damper Frame Post for Lightning Bug, Champion and Zephyr	.25
114	Speed Weight (Rectangular) for Lightning Bug, Champion and Zephyr	.50
115	Screw to adjust tension of dot coil spring on all models	.20
116	Lever stop screw for all models	.15
117	Binding post collar for all models	.10
118	Nut to adjust tension of dash coil spring—all models	.10
119	Binding post nut for all models	.10
120	Nut to fasten contact spring for Lightning Bug, Champion and Zephyr	.15
121	Screw to secure speed weight on Lightning Bug, Champion and Zephyr	.15
122	Trunion screw for all models	.10
124	Lock nut for contact, stop and trunion screws—all models	.05
126	Screw to secure round speed weight—Original and Blue Racer	.10
127	Damper wheel for Original and Blue Racer	.15
128	Round speed weight for Original and Blue Racer	.30
129	Contact post for dot and dash on Original and Blue Racer and dash position on Lightning Bug, Champion and Zephyr	.25
131	Screw to secure upper triangle main frame plate on Lightning Bug, Champion and Zephyr	.05
136	Coil spring for dot side, Original and Blue Racer	.15
137	Coil spring for dot side, Lightning Bug, Champion and Zephyr	.15
138	Screw to secure dash contact	.10
139	Thumb Piece (Black)	.35
140	Thumb Piece (Red)	.50
141	Finger Piece (Round—Black)	.35
142	Finger Piece (Round—Red)	.50
143	Switch Knob (Black)	.35
144	Switch Knob (Red)	.50



No. 140 (Red)



No. 141 (Black)
No. 142 (Red)



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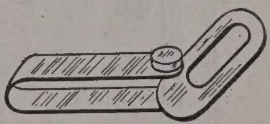

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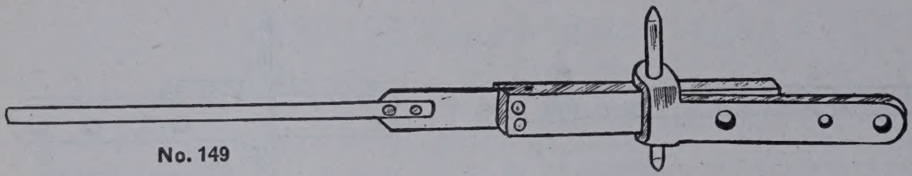
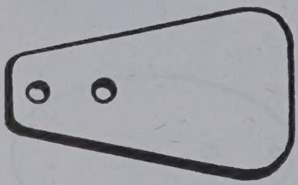
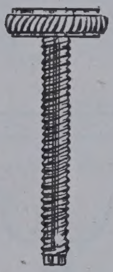


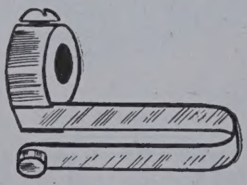
No. 149



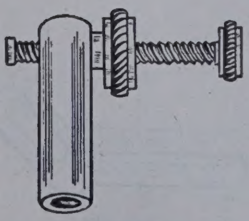
No. 139 (Black)



No. 163



No. 165



No. 167

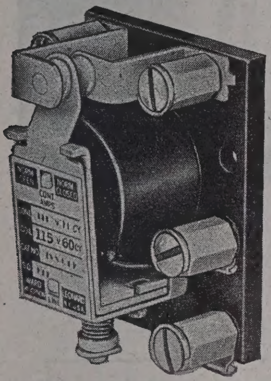
No.	Net Price
144—Switch Knob (Red)	$0.50
145—Cord, complete with Wedge	1.25
147—Rubber Foot	.10
148—Screw to secure rubber foot	.05
149—Lever for Original and Blue Racer	2.05
150—Lever for Lightning Bug, Champion and Zephyr	2.05
151—Damper Frame for Original	1.50
152—Damper Arm for Original	1.00
153—Damper Bridge Strip for Lightning Bug, Champion and Zephyr	1.00
154—Damper Wheel Hanger for Lightning Bug	.50
155—Damper Wheel for Lightning Bug, Champion and Zephyr	.25
156—Damper Frame for Blue Racer	1.50
157—Main Frame for Original	3.50
158—Main Frame for Blue Racer	2.50
159—Circuit Closer, complete (Switch, Lip, etc.)	.75
160—Coil Spring for dash side (all models)	.15
161—Contact Spring, complete with ⅛″ Dia. Contact Point for Original and Blue Racer	.75
162—Contact Slide (Dash), complete with ⅛″ Dia. Contact Point for all models	.75
163—Contact Screw, complete with ⅛″ Contact Point for all models	.75
164—Contact Spring, complete with ⅛″ Dia. Contact Point for Lightning Bug, Champion and Zephyr	.75
165—Contact Spring, complete with 3/16″ Dia. Contact Point for Original and Blue Racer	1.00
166—Contact Slide (Dash), complete with 3/16″ Dia. Contact Point for all models	1.00
167—Contact Screw, complete with Post, Lock Nut and 3/16″ Dia. Contact Point for all models	1.35
168—Contact Screw with separate 3/16″ Contact for all models	1.00
169—Contact Screw without Contact Point for all models	.25
170—Contact Spring, complete with 3/16″ Dia. Contact Point for Lightning Bug, Champion and Zephyr	1.00
171—Damper Wheel Hanger for Champion and Zephyr	.50
172—Upper or Lower Triangular Plate, complete with Collar for Assembly of Lightning Bug, Champion or Zephyr	1.25

RELAYS For Automatic Control

Ward Leonard Relays have self-cleaning, self-aligning silver-to-silver contacts. Metal parts, except contacts, are cadmium plated subject to Governmental Limitation Orders. Unless otherwise specified they are available for either A.C. or D.C. operation.

On this page and the next one are shown a few representative samples of the comprehensive line of relays made by Ward Leonard. The ones selected for illustration here are some that are particularly adaptable to electronic as well as industrial equipments.

Prices and Details Furnished on Request



LITTLE GIANT—TYPE No. 105.—A general purpose relay designed for remote control of the ordinary type of electrical appliances, such as electric heaters, electric signals, electric lights, electrically operated pumps, and most types of electronic equipments. The Little Giant is sturdily built on a molded Bakelite base. Heavy, front connected terminals are provided. The Little Giant, as a standard unit, is of the open type, but it can be furnished with a steel knock-out box enclosure.

Coil Voltages.—

D.C.—6, 10, 12, 24, 32, 115 volts.
A.C. (60 cycles)—6, 10, 12, 24, 32, 115, 230 volts.

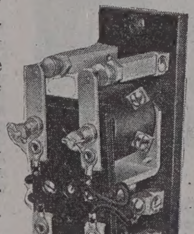
Contact Arrangement.—

Single Pole, Single Break, Normally Closed.
Single Pole, Single Break, Normally Open.
Single Pole, Single Break, Double Throw.

Contact Ratings, in Amperes.—

Volts	D. C.		A. C.	
	Normally Open	Normally Closed	Normally Open	Normally Closed
0-24	20	15	20	15
25-115	1	1	20	15
230	0.5	0.5	15	10

Dimensions.—1⅛″ wide x 2⅝″ long x 1$\frac{7}{16}$″ high. With 2 mounting holes .193″ diameter, spaced 1½″.



HEAVY DUTY—TYPE No. 130.—For use in circuits, both A.C. and D.C., in which a relay that has current carrying and rupturing capacities greater than the ordinary relay is required. Contact fingers are heavy stiff metal blades using large stainless steel springs for pressure. Large gap contacts with adequate surfaces. As high as four separate circuits may be opened simultaneously with the closing of up to four other circuits. All poles are electrically independent.

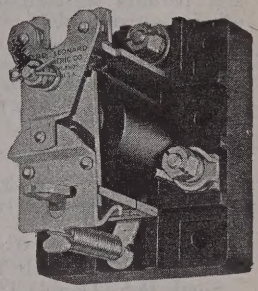
Coil Voltages.—

D.C.—24,32, 115, 230 volts.
A.C. (25 cycles and 60 cycles)—24, 32, 115, 230, 440 volts.

Note: Other voltages and frequencies are available on special order.

Contact Arrangement.—

Practically any combination of contacts from one pole to four poles can be provided.



MIDGET—TYPE No. 106.—For remote control of A.C. or D.C. circuits. Has wide application for use on power circuits or electronic circuits in which the current to be controlled do not exceed the ratings of the contacts. May be energized from main line or from an independent circuit. Built on a molded Bakelite base. Front or back connected terminals.

Coil Voltages.—

D.C.—6, 8, 12, 24, 32, 115 volts.
A.C. (25 cycles or 60 cycles)—6, 8, 12, 24, 32, 115 volts.

Contact Arrangement.—

Single Pole, Double Break, Normally Closed.
Single Pole, Double Break, Normally Open.
Double Pole, Single Break, Normally Closed.
Double Pole, Single Break, Normally Open.
Single Pole, Double Break, Double Throw.
Double Pole, Single Break, Double Throw.
Double Pole (Common Feed), Single Break, Normally Open.
Double Pole (Common Feed), Single Break, Normally Closed.
Double Pole (Common Feed), Single Break, Double Throw.

Contact Ratings, in Amperes.—

Volts	D. C.		A. C.	
	Single Break	Double Break	Single Break	Double Break
0- 24	4	6	4	6
25-115	1*	2	4	6

*0.7 Amperes if Double Throw.

Dimensions.—2″ wide x 2¼″ long x 2⅛″ high. With 2 mounting holes .173″ diameter, spaced 1½″.

Type No. 106 Relays for 3-wire control are also available. Details will be furnished on request.

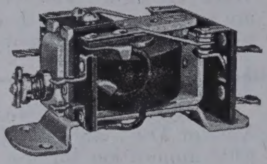
Contact Ratings, in Amperes.—

Volts	Direct Current	D.C. with Blowout	A.C. 25 Cycles	A.C. 60 Cycles
0- 24	25	25	25	25
25-125	3	20	25	25
126-250	1	10	25	25
251-440	......	......	10	15

NOTE: Blowouts are required for all relays that control Direct Current circuits in which the voltage exceeds 23 volts and the current exceeds 1 ampere.

Dimensions.—Base dimensions vary according to the size of the relay as determined by the function or functions it is to perform. Maximum height, 3⅛″.

RELAYS (Continued from Preceding Page)



MIDGET METAL BASE—TYPE No. 104.—For use in small radio transmitters, sound equipment, aircraft control circuits, and other similar applications. It may be obtained also with ceramic insulation to adapt it to radio frequency circuits. Its small size permits installation in otherwise inaccessible places, such as on the chassis of radio transmitters and sound amplifiers. Built on a metal base, vibration resistant up to 10 times gravity when energized. Front connected, solder type terminals.

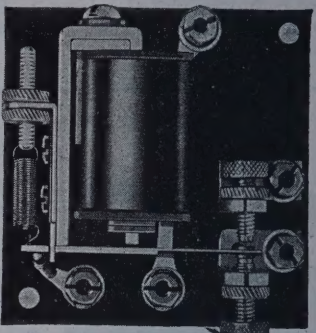
Coil Voltages.—
D.C.—6, 10, 12, 24, 32, 115 volts.
A.C. (60 cycles)—6, 10, 12, 24, 32, 115 volts.

Contact Arrangement.—
Double Pole, Double Throw.
Single Pole, Double Throw.

Contact Ratings, in Amperes.—

Volts	D.C.	A.C.
0- 24	4	4
25-115	0.5	4

Dimensions.—1½″ wide x $2\frac{11}{16}''$ long x 1¼″ high. With 5 conveniently placed mounting holes .169″ diameter.



SENSITIVE TYPE No. 250.—For use in applications where a high degree of sensitivity is required, such as in electronic circuits. Built on a molded Bakelite base with large knurled heads and nuts to facilitate adjustment of the contacts and the spring tension on the armature. The use of nickel alloy in the magnetic circuit insures good contact torque at pull-up and a crisp drop-out. Position of the relay does not alter its performance.

Contact Arrangement.—
Single Pole, Double Throw.

Contact Rating, in Amperes.—

Volts	D.C.	A.C.
115	0.75	2.0
230	0.5	1.5

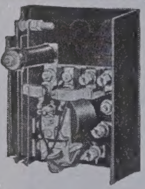
Dimensions.—2⅝″ wide x 2⅝″ long x $1\frac{9}{16}''$ high. With 2 mounting holes .196″ diameter, placed at opposite corners.

Prices and Details Furnished on Request

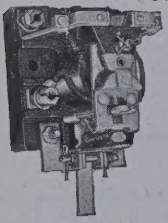
RADIO RELAYS

A few examples of Ward Leonard's popular line of relays for use in radio circuits are illustrated here.

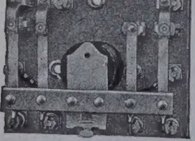
Detailed information on specifications and prices will be furnished on request made to Ward Leonard directly or through one of its agents or jobbers.



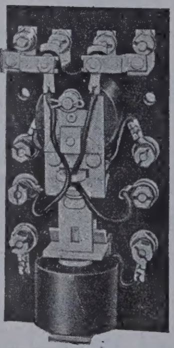
THERMAL TIME DELAY RELAY.—Delays the application of voltage to the plates of vacuum tubes until the filaments have heated. The relay illustrated is adjustable over a range of from 15 seconds to 45 seconds. Other time delay relays—thermal type and motor driven type—are also available.



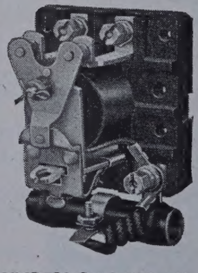
MIDGET OVERLOAD RELAY.—Protects against overloading vacuum tubes of power amplifiers or transmitters. Current surge causes armature to be pulled in opening contacts which remain open until the operator trips a mechanical latching device.



BREAK-IN RELAY.—Otherwise known as "Push - to - Talk" Relay for 'phone transmitters. Pushing button in control circuit connects proper transmitter circuits and disconnects proper receiving circuits to transmit. Releasing button switches all circuits back to normal position for receiving.

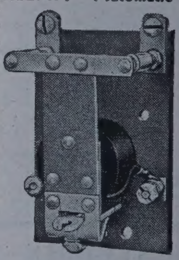


MIDGET LATCH - IN RELAY. — Multi-purpose relay. Energizing coil "pulls in" armature, which is locked in position by mechanical latch. Momentary energizing reset coil releases latch, allowing armature to drop to normal position.

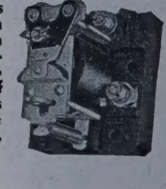


UNDERLOAD RELAY.—Protects against damage to tubes and other components of amplifiers when load failures occur due, for example, to inability of one or more vacuum tubes to hold the load because of loss of excitation.

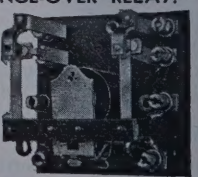
De-energizing of relay coil when load drops opens contacts and prevents damage to transformers or tubes.



BAND SWITCHING RELAY.— Automatically changes frequency bands through two-wire control circuit. Installation of the relay in the set near the coils eliminates the need for long R. F. leads, such as are required when a panel-mounted switch is used. The Relay is well insulated to insure against leakage or creepage of high frequencies or high voltages.



KEYING RELAY.—Low voltage type for center-tap or grid-bias keying shown here. High voltage type for use with grid controlled high voltage rectifier tubes also available. Capable of keying up to 40 words per minute. Can be operated with dry cells, if desired.

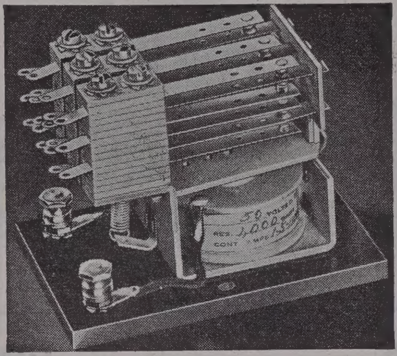


ANTENNA CHANGE-OVER RELAY.—Switches antenna to transmit or receive. May also be used to switch transmitter or receiver to either of two antennas. Satisfactory for frequencies up to 60 megacycles. Well insulated, and provided with silver contacts rated at 5 amperes.

Advance RELAYS

GENERAL CIRCUIT CONTROL RELAYS

Alternating and Direct Current



Dimensions—3¼" x 2¼"

These sturdy, compact General Circuit Controls are available for operation on both alternating and direct current — Series 100 and 200 respectively—and incorporate many superior construction features not usually found in economically priced lines. "Full Floating" armature suspension, "wiping" contacts, and more than adequate insulation are but a few of their highly desirable qualities.

The switch stacks, composed of die-cut, spring phosphor-bronze blades, Bakelite spacers, and hard rubber sleeving, have a break-down test of 2500 volts, and will give a lifetime of service.

Each unit, mounted on a Bakelite base and equipped with binding posts for the coil connections, is entirely "above ground" and all current carrying screws and terminals are fully countersunk to prevent any possibility of "short-circuiting."

PRICE CHART—For Series 100 (A.C.) and Series 200 (D.C.) Relays

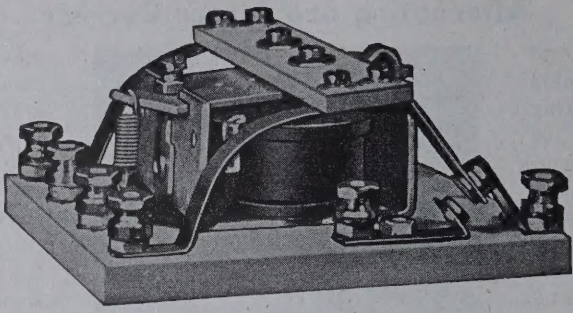
CONTACT RATINGS:
1/8" 4.5 AMPS. AT 6 VOLTS TO 1.5 AMPS. AT 115 VOLTS
3/16" 15 AMPS. AT 6 VOLTS TO 5 AMPS. AT 115 VOLTS
1/4" 30 AMPS. AT 6 VOLTS TO 10 AMPS. AT 115 VOLTS

Contact Combinations	Type Numbers, Contact Sizes and List Prices					
	1/8"	List	3/16"	List	1/4"	List
SINGLE POLE-SINGLE THROW Normally Open	101	$4.00	101A	$4.25	101B	$4.50
SINGLE POLE-SINGLE THROW Normally Closed	102	4.00	102A	4.25	102B	4.50
SINGLE POLE-DOUBLE THROW	103	4.25	103A	4.50	103B	5.00
DOUBLE POLE-DOUBLE THROW	104	4.50	104A	4.75	104B	5.25
DOUBLE POLE-SINGLE THROW Normally Open	105	4.25	105A	4.50	105B	5.00
DOUBLE POLE-SINGLE THROW Normally Closed	106	4.25	106A	4.50	106B	5.00
THREE POLE-SINGLE THROW Normally Open	107	4.75	107A	5.25	107B	5.75
THREE POLE-SINGLE THROW Normally Closed	108	4.75	108A	5.25	108B	5.75
THREE POLE-DOUBLE THROW	109	5.50	109A	6.00	109B	6.75
FOUR POLE—Two Make-Two Break	110	5.75	110A	6.25	110B	7.25
FOUR POLE-SINGLE THROW Normally Open	111	5.75	111A	6.25	111B	7.25
FOUR POLE-SINGLE THROW Normally Closed	112	5.75	112A	6.25	112B	7.25
FOUR POLE-DOUBLE THROW	113	6.50	113A	7.25	113B	8.75
FIVE POLE-SINGLE THROW Normally Open	114	6.75	114A	7.50	114B	8.75
FIVE POLE-SINGLE THROW Normally Closed	115	6.75	115A	7.50	115B	8.75
FIVE POLE-DOUBLE THROW	116	7.50	116A	8.50	116B	10.00
SIX POLE-SINGLE THROW Normally Open	117	7.75	117A	8.75	....	....
SIX POLE-SINGLE THROW Normally Closed	118	7.75	118A	8.75	....	....
SIX POLE-DOUBLE THROW	119	8.50	119A	10.50	....	....

The above chart, listing A.C. Relays, may also be used when ordering D.C. Relays by Changing the Series Number from 100 to 200. To avoid possible errors, always specify the correct A.C. or D.C. input voltage. The Series 100 Coils are obtainable for any voltage from 1 to 115 A.C.—Series 200 Coils for any Voltage from 2 to 60 D.C. Prices for other voltages will be furnished on request.

Advance RELAYS

TRANSMITTER RELAYS



Type 400

Isolantite model Antenna Change-Over. Designed for use in Amateur Transmitters.

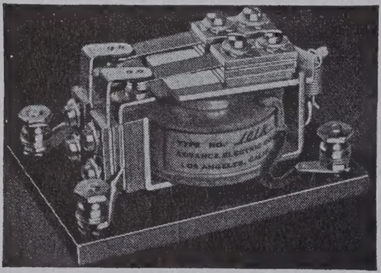
The contact system is Double Pole-Double Throw, using ¼″ Pure Silver contacts, with exceptional wiping action. Three and four pole arrangements are available on special order.

For high radio frequency control. Entirely hum-free where intended for A.C. operation, and highly efficient on D.C. supplies. All metallic parts are cadmium and chromium plated.

Standard coils are for 110V A.C. and may also be used for 24V D.C. However, they will also be supplied for lower A.C. or D.C. voltages at no increase in price.

List Price **$9.00**

KEYING RELAYS



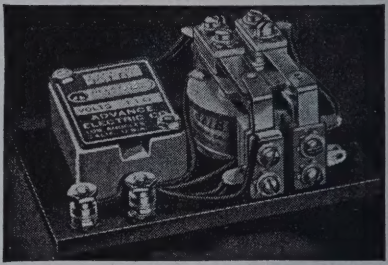
Type 101K—A.C.
Type 201K—D.C.

Designed expressly for use in Keying Circuits where it is desired to use low voltage across the key to control high voltage transmission through the Relay contacts. The heavy duty coil and strong return spring makes possible an exceptional keying speed. Two sets of ¼″ Pure Silver contacts in series allow a carrying capacity of 2500 volts. The complete unit, mounted on a 3/16″ Bakelite base with binding posts for coil connections, has over-all dimensions of 3″ x 2″ x 1⅜″ and is obtainable for A.C. operation to 115 volts or D.C. operation to 60 volts.

List Price **$5.00**

TIME DELAY RELAYS

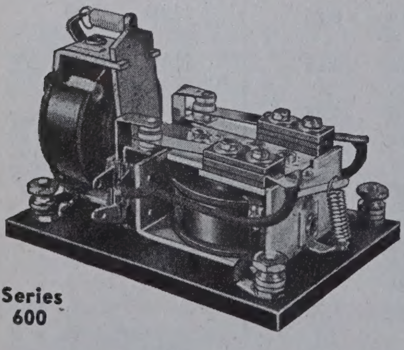
Type 300—N.O.
Type 350—N.C.



Particularly suited for use where short time delays (10 sec. to 1 min.) are required, these Relays are available with both normally open and normally closed thermostats. Types 300 and 350 respectively, the former being widely used for pre-heating tube filaments, etc. The contact combination on both models is Double Pole Single Throw with ¼″ Pure Silver contacts. Mounted on 3/16″ Bakelite bases measuring 3¾″ x 2⅜″ x 1½″ with binding posts for coil connections. Standard operating voltage is 110 A.C.........................**List Price $7.75**

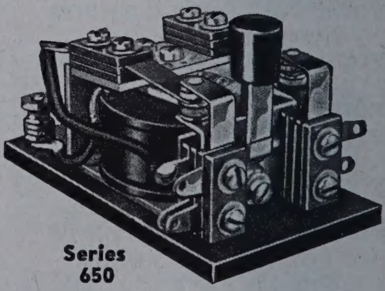
Low voltage units are available on special order.

LATCHING RELAYS



Series 600

These Relays are highly desirable for applications where it is impractical to have the holding coil in constant service. When the coil actuating the contact arrangement is momentarily energized, the armature is locked in the closed position, and may be released electrically (Type 600) or manually (Type 650).



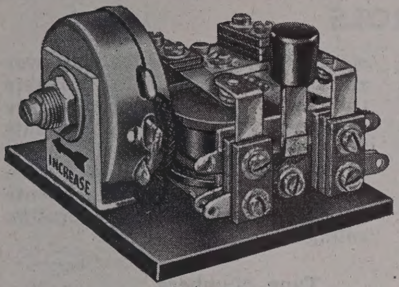
Series 650

	List			List
Type 604B	**$8.75**	Double Pole-Double Throw	**Type 654B**	**$6.50**
Type 605B	**8.50**	Double Pole-Single Throw (N. O.)	**Type 655B**	**6.25**
Type 606B	**8.50**	Double Pole-Single Throw (N. C.)	**Type 656B**	**6.25**

The above list prices are for ¼″ contacts. For 3/16″ points deduct 25c—for ⅛″ points deduct 50c. When ordering these types SPECIFY THE VOLTAGE.

Advance RELAYS

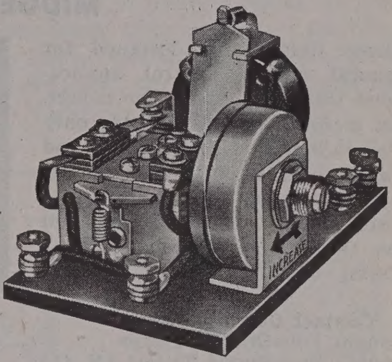
OVERLOAD RELAYS



Type 700

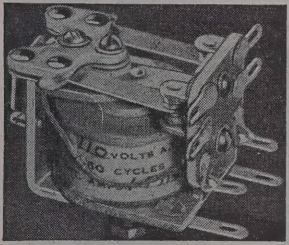
These Relays are designed to provide accurate and positive protection against current surges and continuous overloads, and both the Manual Reset (Type 700) and Electrical Reset (Type 750) are divided into two classifications: Type "A" allows the Relay to attract on any current value between 250 and 500 mills, and Type "B" for any setting between 500 mills and 1 ampere. When the current flow passes the safety setting, the Double Pole-Single Throw ¼″ Pure Silver contacts are opened, breaking the power supply circuit until reset.

	List Price
Type 700—Base dimensions 3″ x 2½″	$ 9.25
Type 750—Base dimensions 4″ x 2½″	12.00



Type 750

MIDGET RELAY



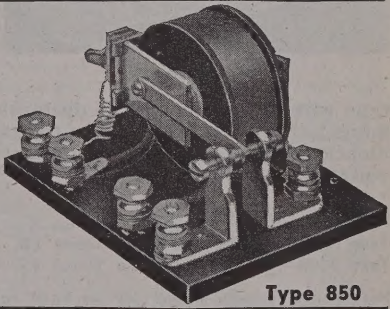
Series 1500 and 1600

Of particular interest where size and cost are factors, this new series of Midget Relays incorporates all of the fine construction features typical of the ADVANCE line. This unit measures only 1½″ x ¾″ x 1⅛″ high. Pure Silver contacts are used, ⅛″ in diameter. Standard coils are obtainable from 2 to 32 V D.C. and 1 to 115 V A.C. The following switch combinations can be supplied:

TYPE			
A.C.	D.C.	CONTACT COMBINATION	LIST PRICES
1505	1605	DP-ST NOR. OPEN	$3.75
1506	1606	DP-ST NOR. CLOSED	3.75
1504	1604	DP-DT	4.00

ELECTRONIC RELAY

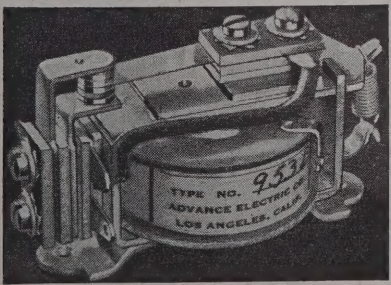
An ultra-sensitive unit for use in electronic tube circuits, providing positive, dependable control on as little as 12 milliwatts. Adjustment screws to change the air-gap between the armature and the pole face, allow operation on a voltage differential of 30%, a condition ideal for electronic applications. The contact combination is Single Pole-Double Throw, employing ⅛″ Pure Silver points to safely handle 100 watt non-inductive loads. Obtainable in resistances of 2500, 3000, 5000 and 10,000 ohms at no increase in price........ **List Price....$6.50**



Type 850

GENERAL PURPOSE RELAYS

Types 951B — 952B — 953B



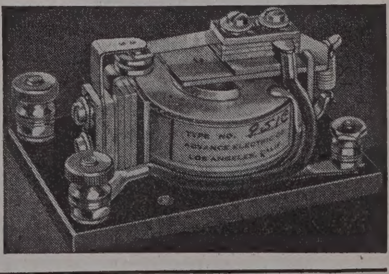
These Relays afford maximum power and efficiency at very low cost. ¼″ Pure Silver contacts are standard on the Single Pole-Single Throw (N. O.) Type 951B—Single Pole-Single Throw (N. C.)—952B—and Single Pole- Double Throw—953B—switch combinations. Adequately insulated and entirely above "ground," these Relays may be mounted on any type of panel, quickly and easily, by means of the metal mounting bracket. Coils are obtainable to 115V A. C. or 60V D. C.

List Price **$3.50**

GEN-E-MOTOR STARTING RELAY

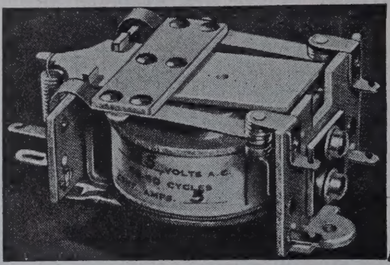
Type 951C

An exceptionally sturdy power transfer Relay, easily capable of handling the heavy current surge encountered on "cold" starts in motor-generator systems. The contacts are ⅜″ Pure Silver and have ample carrying capacity for the usual 200-500V converters. Heavy-duty in every phase of construction, this unit is not to be compared with the common five and ten ampere circuit controls. Base dimensions are 3″ x 2″ and each unit is complete with a braided generator-cable pig-tail and binding posts for all connections. Coils for 5½ to 32V D. C. or 1 to 115 A. C. .... **List Price....$6.00**



Advance RELAYS

MIDGET TYPE CIRCUIT CONTROLS



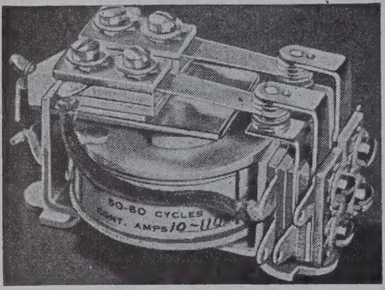
These Relays are designed for general circuit control applications where the space for mounting is limited, and measure only 2½" in length, 1½" in width, and 1¼" in height. A.C. operated Relays in this series require but 4 watts on 50/60 cycle current, and the D. C. models from 1..5 to 2 watts, affording maximum efficiency without sacrifice of power and dependability. Metal brackets (not shown in the illustration) are supplied with all Relays of this type, and except on special order, these models are limited to the following contact arrangements and the usual standard operating voltages:

Contact Combinations	3/16"	List	¼"	List
Double Pole-Double Throw	104AM	$5.00	104BM	$5.50
Double Pole-Single Throw (N. O.)	105AM	4.75	105BM	5.25
Double Pole-Single Throw (N. C.)	106AM	4.75	106BM	5.25

Type Numbers
Contact Sizes and List Prices

The above chart lists type numbers for A.C. operated Relays. D. C. coils may be obtained by changing the series number from 100 to 200. Prices apply to both.

INDUSTRIAL CONTROL RELAYS

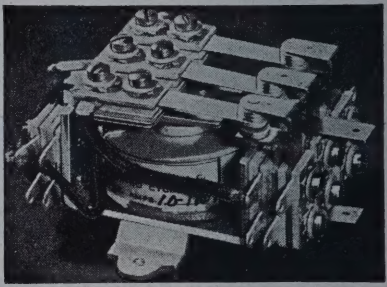


Series 960

Designed mainly for industrial applications — air conditioning, lighting, and power transfer systems, the Series 960 Relays embody all of the rugged construction features demanded in units of this type without sacrificing the desirable qualities of the midget style. Available in the following contact combinations, and to operate on standard A. C. and D. C voltages.

	List
Type 964B—DoublePole Throw	$5.00
Type 965B—Double Pole-Single Throw (N. O.)	4.75
Type 966B—Double Pole-Single Throw (N. C.)	4.75

For smaller contacts, deduct 25c for 3/16" or 50c for ⅛" points, from the above list prices.



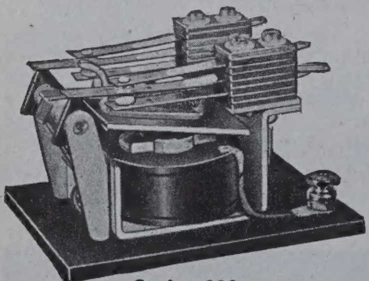
Series 900

Having the same characteristics as the Series 960 Relays, these Three Pole units, Series 970, may be used for fractional h/p 3-phase motor controls, etc. The area required for mounting 2⅝" x 1⅞" for Type 970 Relays, as against 2½" x 1¼" for the Type 960's, is due to the slightly larger frame. The metal brackets are the same in both instances—2-5/16"ling, and 2" between centers of the 6/32 mounting holes. Available in the voltages indicated in the preceding series, and in the following contact combinations:

	List
Type 977B—Three Pole-Single Throw (N. O.)	$5.25
Type 978B—Three Pole-Single Throw (N. C.)	5.25
Type 979B—Three Pole-Double Throw	6.00

For smaller contacts, deduct 50c for 3/16" or 75c for ⅛" points from the above list prices.

IMPULSE RELAYS



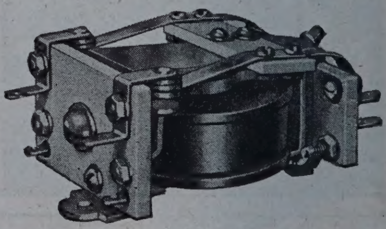
Series 900

This is another type of Relay for use where it is not feasible to have the holding coil in constant service, but differs from the latching types in that it may be controlled with a single push-button. Coils to operate this type of unit are extremely heavy-duty, and are for intermittent (impulse) use only. Available for standard A. C. and D. C. voltages in the following combinations:

	D.P.S.T. List	D.P.D.T. List
With ⅛" Pure Silver contacts	$8.50	$9.00
With 3/16" Pure Silver contacts	9.00	9.50
With ¼" Pure Silver contacts	9.50	....

When ordering these types, be sure to specify the input voltage, contact combination, and size of points.

MIDGET TYPE R.F. RELAYS

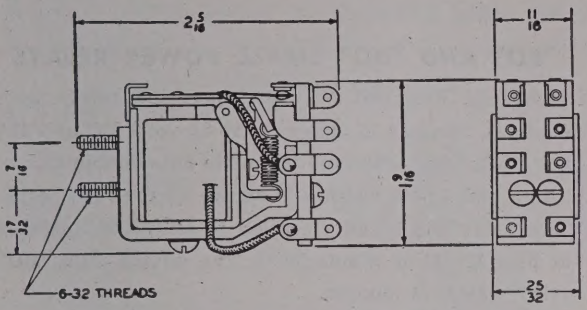


Series 1000—A.C. Series 2000—D.C.

These models are sturdy, compact Double Pole - Double Throw Transmitter Relays, designed expressly for use in all types of mobile-portable communications equipment where space is at a premium. The insulation on this, as on the Type 400's, is Isolantite for both the cross-arm and end pieces, with all holes adequately well spaced to prevent structural weakness and possible "creepage." Coils are obtainable for all A. C. and D. C. voltages, and will operate in any position, the former consuming approximately four watts—the latter, two watts of power. Dimensions are 2¾" x 1½" x 1¼".

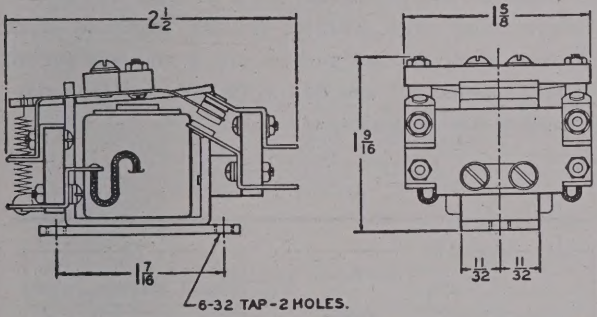
List Price $7.50

ALLIED RELAYS
FOR CURRENT AND VOLTAGE CONTROL EQUIPMENT


2 5/16
11/16
7/16
17/32
9/16
25/32
6-32 THREADS

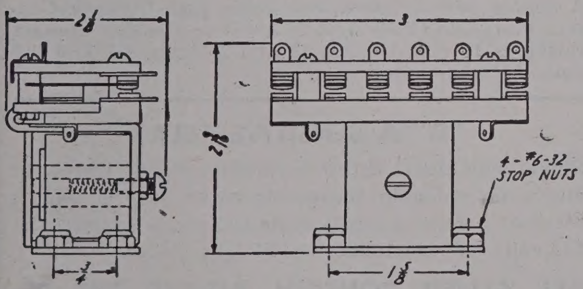
"BJ" A SMALL POWER RELAY

A small compactly designed 2 watt operating power relay with contacts rated at 5 amperes for 24 volts DC or 110 volts AC. Standard is double pole double throw. Weight is 2¼ ounces.


2 1/2
1 5/8
1 9/16
1 7/16
11/32
11/32
6-32 TAP-2 HOLES.

HR RELAY

A double pole double throw relay with Contact Plate of Ceramic and Cross Arm of low-loss Steatite. Operates at 15 amperes for 32 volts DC and 110 volts AC non-inductive. Weighs 6 ounces.

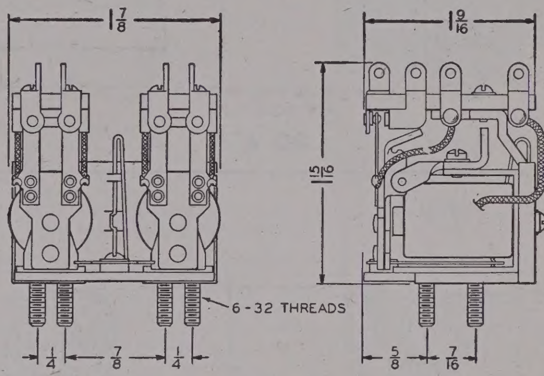

2 1/8
3
2 1/8
3/4
1 5/8
4-#6-32 STOP NUTS

"BN" A MULTIPLE CONTACT RELAY

Contact arrangement is 6 pole double throw. Contact rating (with Silver Contacts) 15 amperes for 12 and 24 volts DC and 110 volts AC. Weight is 11 ounces.

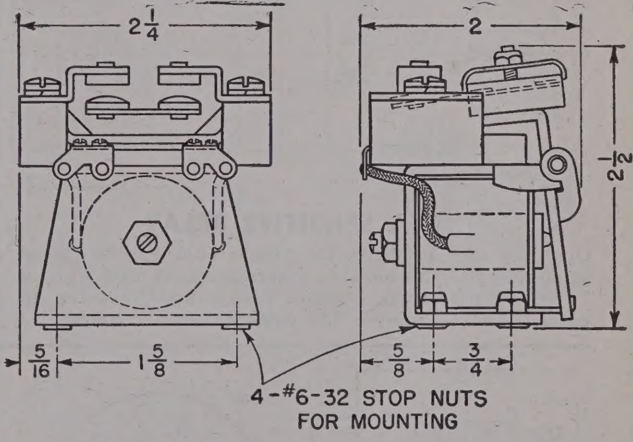
"BJU" A TOGGLE LATCHING RELAY

BJU locks mechanically in either position so that momentary current needs to be applied to the coils. Four pole double throw, maximum rating 5 amperes per contact, non-inductive, for 12 and 24 volts DC and 110 volts AC. Weight is 6½ ounces.


1 7/8
1 9/16
1 5/16
6-32 THREADS
1/4
7/8
1/4
5/8
7/16

"CN" A POWER RELAY

Contact arrangement is single pole single throw, normally open or closed, double break. Contact rating is (with Silver Contacts) 50 amperes for 12 and 24 volts DC or (Model CNS with Alloy Contacts) 75 amperes for 12 and 24 volts DC. Weight is 9 ounces.


2 1/4
2
2 1/2
5/16
1 5/8
5/8
3/4
4-#6-32 STOP NUTS FOR MOUNTING

ALL ALLIED CONTROL RELAYS ARE DESIGNED TO MEET ARMY, NAVY and CAA SPECIFICATIONS. THEY CAN BE ADAPTED TO MEET SPECIFIC CUSTOMER NEEDS.

Write for Catalog

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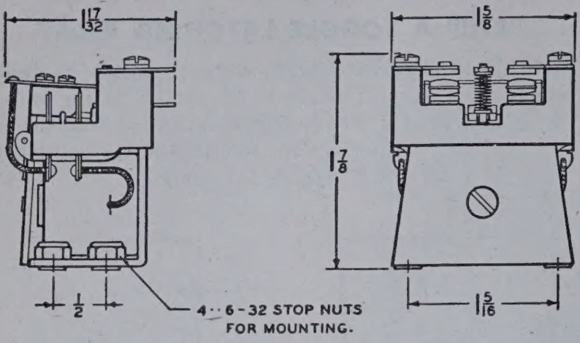
FACTORIES: NEW YORK CITY • PLANTSVILLE, CONN. • CHICAGO, ILL.

ALLIED RELAYS
FOR CURRENT AND VOLTAGE CONTROL EQUIPMENT

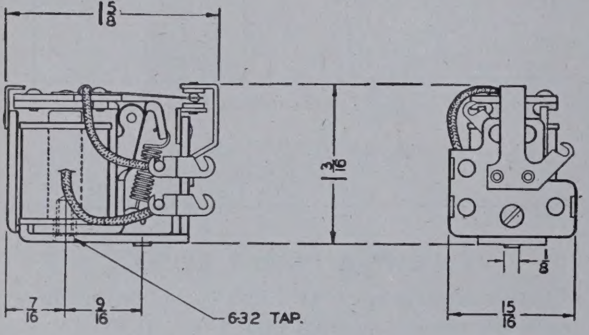


1 17/32
1 5/8
1 7/8
1/2
1 5/16
4 - 6-32 STOP NUTS FOR MOUNTING.

BO 6

"BO" AND "DO" SMALL POWER RELAYS

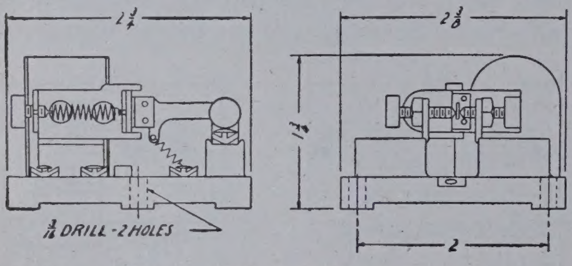
Compactly designed 2½ watt operating relays with contacts rated at 15 amperes for 32 volts DC and 110 volts AC. The "BO" type is double pole double throw. The 3 and 4 pole version is known as the "DO" type. This relay will stand vibration to 12 G and operates at plus 120°C or minus 50°C. The double pole "BO" relay weighs 4 ounces.



1 5/8
1 3/16
7/16
9/16
6-32 TAP.
1/8
15/16

"AR" AND "AS" FEATHERWEIGHT RELAYS

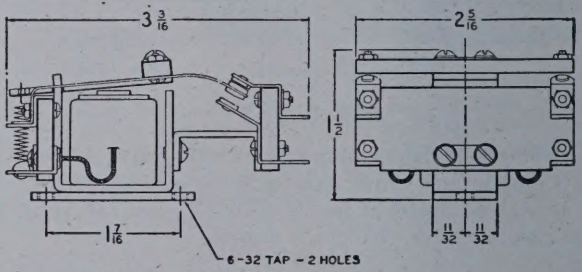
AR is a single pole double throw relay with transfer contact grounded to frame. AS is a single pole double throw relay with transfer contact insulated from frame. Their contact ratings are 5 amperes for 12 and 24 volts DC and 110 volts AC, non-inductive. Weights are 50 grams.



2 1/4
2 3/8
1 1/4
1/8 DRILL - 2 HOLES
2

"B" A SENSITIVE RELAY

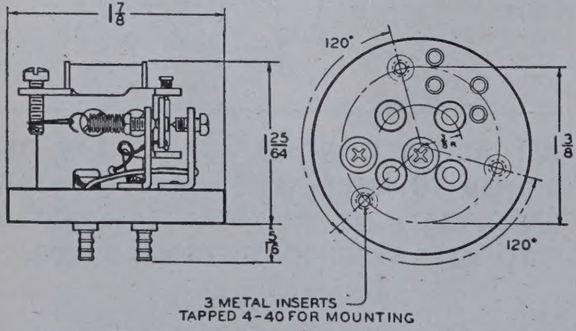
Operates at 0.12 watts for single pole double throw or double pole double throw arrangement, and weighs 7 ounces. Maximum contact rating non-inductive 48 volts DC at 1 ampere—125 volts AC at 5 amperes.



3 3/16
2 5/16
1 1/2
1 7/16
11/32
11/32
6-32 TAP - 2 HOLES

HF RELAY

A double pole double throw relay with Ceramic Contact Plate and Cross Arm of low-loss Steatite. Contact rating is 15 amperes for 12 and 24 volts DC and 110 volts AC non-inductive.



1 7/8
120°
1 25/64
1 3/8
5/8
120°
3 METAL INSERTS TAPPED 4-40 FOR MOUNTING

"G" A SENSITIVE RELAY

Single pole single throw normally open or closed, or single pole double throw. Operates at 0.05 and is rated at 1 ampere for 48 volts DC and 5 amperes for 110 volts AC, non-inductive. Weighs 3½ oz.

ALL ALLIED CONTROL RELAYS ARE DESIGNED TO MEET ARMY, NAVY and CAA SPECIFICATIONS. THEY CAN BE ADAPTED TO MEET SPECIFIC CUSTOMER NEEDS.

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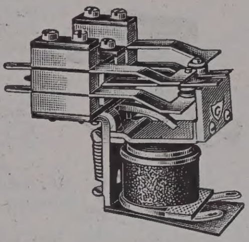
RELAYS BY GUARDIAN

THE MOST COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS

A-100 ANTENNA RELAYS



A-100 Antenna Relays have been designed for the amateur who wants compact, convenient, low cost antenna changeover control.

OPERATING DATA

Contacts

A. Points—Large, fine silver, which give long life even when under heavy overloads.
B. Insulation — Low loss AlSiMag 196.
C. Switches—Low capacity due to special form.
D. Control Capacity—Up to 1 KW. either AF or RF circuits, on frequencies up to and including 28 MC. Tested for these ratings under actual operating conditions.

Terminals

A. Solder lug type. tinned for easy soldering.

Coil

A. Standard coils operate on 110 volts 50-60 cycles A. C. Coils for other voltages and currents on specification at 10% addition to list price.
B. Power consumption at above voltage approximately 7 VA.

Mounting

A. Two holes, single screw. Screw furnished.
B. May be mounted on any type panel. All terminals are insulated from ground.

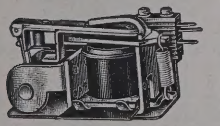
Applications

A. Radio:—
A-100—Antenna changeover, break-in, heavy duty keying in the primary with contacts in parallel, grid controlled rectifier keying, and many other double pole double throw uses.
A-100-C—For single wire fed antenna installations. Two A-100-C Relays in place of an A-100 in open wire line systems avoid possible mismatch caused by distorting the feed system to provide for relay installation.
B. Industrial:—
HF and UHF equipment, remote motor control, heating equipment, etc.

	Length	Width	Height	Shp. Wt.	List Price	Net Price
***A-100**	2¾''	2''	2⅜''	7 oz.	$6.85	**$4.11**
†A-100-C	2¾''	1''	2⅜''	6 oz.	3.80	**2.28**

***Double pole, double throw.** **†Single pole, double throw.**

RC-100 REMOTE LOCKING CONTROL RELAY



RC-100 Remote Locking Control Relays are a Guardian development of the momentary impulse locking control relay. The circuit to the coil needs be energized only long enough to close armature; contacts lock automatically. Each impulse reverses position of contacts.

OPERATING DATA

Contacts

A. Contacts—¼'' fine silver. Can handle up to 1500 watts at 110 volt, 60 cycle, non-inductive AC. Can also be used in AC primary circuit of any inductive power supply delivering up to and including 1 KW.
B. Insulation—High test Bakelite.
C. Furnished in two standard combinations:
1. Four pole single throw. (RC-100-AR)
2. Three pole. One pole double throw, two poles single throw. (RC-100-BR).
For combinations other than above, add 10% to list prices.

Terminals

A. Solder lug type, tinned for easy soldering.

Coil

A. Standard coils operate on 110 volt, 50 to 60 cycle AC. Coils for other voltages and currents on specification at 10% addition to list prices.
B. Power consumption—Standard coil requires approximately 23 VA, is for intermittent duty only. Coil is energized only long enough to allow relay to step to the next switch position. Power is consumed for the duration of the energizing impulses only, and remains off until the next switching operation is required.

Mounting

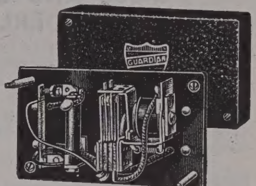
Mounts on metal base with all terminals insulated.

Applications

Break in control; phone to CW switching. Any circuit control where locking circuits are used.

	Shp. Wt.	List Price	Net Price
RC-100—AR	8	$5.75	**$3.45**
RC-100—BR	8	6.30	**3.78**

T-100 TIME DELAY RELAYS



A laminated relay in assembly with a resistance wound thermostatic unit. The laminated construction of the field piece and armature give an efficient, powerful, trouble free time delay relay. Unit is mounted in a tightly closed metal box for protection against dust and dirt.

OPERATING DATA

Contacts A. Oversize silver contacts give long life, can take severe overloads without damage.
B. Contact capacity—1500 watts on 110 volt 60 cycle, non-inductive AC. Can also be used in the AC primary of any inductive power supply delivering up to, and including, 1 KW.
C. Insulation—high test bakelite—tested at 1500 volts for breakdown to ground.
D. Maximum switch capacity—single pole, single throw.
E. Time delay—adjustable for any period between 10 and 60 seconds.
F. After contacts close, thermostat blade is cut out of circuit.

Coil A. Standard unit designed for operation on 110 volt 60 cycle non-inductive AC. For coils operating on other than standard voltage, add 10% to list price.
B. Power consumption of coil and time delay during closing of thermostatic blade is approximately 10 VA, after closing, 5.5 VA.

Applications

A. Radio—In transmitter circuits to prevent damage of rectifiers and tube filaments by application of plate current before filaments are sufficiently heated.
B. Industrial—Any control problem requiring the changing of circuits after a predetermined interval.

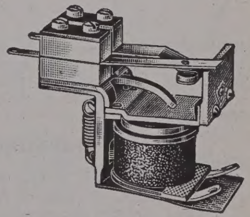
T-100—5¼'' long, 3'' wide, 2¼'' high. Shipping weight 1¼ lbs.
List Price $13.80 each **Net Price $8.28 each**

T-110 TIME DELAY RELAYS

The T-110 is a compact, sturdy, economical time delay relay for use in applications not requiring the capacities of the T-100. Contact capacity—1250 watts on 110 volt, 60 cycle, non-inductive AC. Can also be used in the AC primary circuit of any inductive power supply delivering up to, and including, 1 KW.

T-110—5⅛'' long, $3\frac{1}{16}$'' wide, $2\frac{7}{16}$'' high. Shp. Wgt. 8 oz.
List Price $8.60 each **Net Price $5.16 each**

R-100 HIGH FREQUENCY RELAYS



R-100 Relays are small, efficient, economical, rugged controls designed to give maximum contact capacity in minimum space at low cost.

OPERATING DATA

Contacts

A. Points—Large fine silver which give long life even when severely overloaded.
B. Insulation — Low loss AlSiMag 196.
C. Switches—Special form of leaves gives low capacity.
D. Contact Capacity—Up to 1 KW at any frequency up to and including 28 MC, on AF and RF circuits.

Terminals A. Solder lug type, tinned for easy soldering.

Coil A. Standard coils operate on 110 volt 60 cycles A.C., draw approximately 7 VA.
B. For coils operating on other voltages or specifications, add 10% to list price.

Mounting A. Two holes, single screw. Screw furnished.
B. May be mounted on any type of panel, as all terminals are insulated from ground.

Applications

A. Radio—Band switching, high voltage keying, grid controlled rectifier keying, crystal switching, remote control of receiver and transmitter, etc.
B. Industrial—Oven control, remote motor control, short wave therapy and diathermy, and innumerable RF and UHF uses.

	Wdth.	Hgt.	Shp. Wt. (oz.)	List Price	Net Price
R-100—S.P.S.T., normally open	1''	2''	6	$3.15	**$1.89**
R-100-B—S.P.S.T., normally closed	1''	2⅜''	6	3.15	**1.89**

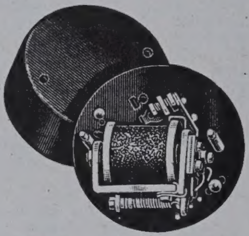
Length for above items: 2¾''.
*The R-100-G is TripleX insulated, is rated at 400 watts at 14 megacycles. For applications requiring higher ratings use the A-100.

CIRCUIT DIAGRAMS FURNISHED ON REQUEST

RELAYS BY GUARDIAN

THE MOST COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS

U-100 AND U-200 ADJUSTABLE UNDERLOAD RELAYS



Sensitive, precise, finely constructed instruments designed for long, trouble free service. Relays are encased in attractive black metal container protecting them against dust, dirt, and accidental misadjustment.

OPERATING DATA

Contacts

A. Points—Oversize, fine silver for long life, can take severe overloads.
B. Insulation—Bakelite.
C. Switches—Single pole, single throw, normally open.
D. Control Capacity—A. C. primary of any power supply delivering up to and including 500 watts. Tested for this rating under actual operating conditions.

Coil

A. Standard coil operates over an adjustable range of 100 to 200 mils D. C. on the U-100 model; 200 to 400 mils on the U-200 model. Release current value is 75% of the attract current value. Desired attract current is obtained by screw adjustment of the spring tension.
B. Normal current through coil of U-100 is 300 mils; of the U-200, 600 mils.
C. At above ratings, the voltage drop through the U-100 coil is 10.5 volts; through U-200 coil, 9 volts.
D. To prevent possible "talking back" of relay during modulation, it is recommended that a 200 volt condenser of sufficient capacity, usually a 10 mfd., be connected across the relay coil.

Mounting

A. Preferred mounting position has armature hinge on bottom with armature vertical.
B. Two insulated mounting studs and protective fibre disc permit mounting on any type of panel.
C. Two holes, two screws. Screws furnished.
D. Dust proof metal cover, thumb screw fasteners.

Terminals

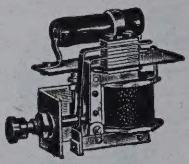
Heavy solder lugs, tinned for easy soldering.

Applications

A. Radio—Protection of class "B" audio equipment in case of class "C" load failure.
B. Industrial—Any D. C. circuit where it is desirable to maintain currents above a set value.

U-100 and U-200 are 3¼" in diameter, 2¼" high. Shipping weight 14 oz...List Price $9.75 ea. **Net Price $5.85 ea.**

X-100 ADJUSTABLE OVERLOAD RELAYS



Positive precise protection against current surges and continuous overloads. X-100 replaces expensive, unsatisfactory, time wasting fuses, provides flexible control of the current flow.

OPERATING DATA

Contacts

A. Points—Large, fine silver, for long life. Can take severe overloads without damage, rated for 1500 watts on 110 volt, 60 cycle, non-inductive A. C. and in A. C. primary circuit of any inductive power supply delivering up to and including 1 KW.
B. Insulation—High test bakelite.
C. Switches—Single pole, single throw with special constant tension form. Contacts lock open, cannot be reset, or points held in contact, until overload stops.

Terminals

A. Solder lug type, tinned for easy soldering.

Coil

A. Adjustable to operate on any current flow from 150 to 650 mils.
B. Voltage drop across coil is 6.5 volts at 650 mils, 9 volts at 150 mils.
C. Insulation between coil and ground rated at 200 volts.

Mounting

A. Single hole. Mounts on rear of panel with reset button extending through panel. Bushing, and lock nut, supplied with relay, hold unit firmly in place. Bushing requires a $\frac{7}{16}$" hole.
B. May be mounted on any type of panel. All terminals are insulated from ground.

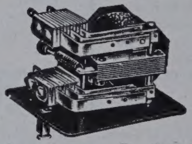
Applications

Overload protection in circuits with varying current demands. Adjustability makes this an ideal relay for experimental work with new circuits.

X-100 4" long, 2½" wide, 3½" high. Shipping weight 12 oz.
List Price $11.50 ea. **Net Price $6.90 ea.**

Available in non-adjustable type to operate on 150-250-500-750 mills...List Price $8.60 ea. **Net Price $5.16 ea.**

B-100 BREAK IN RELAYS



Specially designed for break-in operation on amateur transmitters. Low current draw and compact assembly, plus use of laminated field piece and armature, make the B-100 an ideal relay for this purpose.

OPERATING DATA

Contacts

A. Points—¼" fine silver, capacity to 1500 watts. 60 cycle non-inductive A. C. and in A. C. primary circuit of any inductive power supply delivering up to and including 1 KW.
B. Insulation—High test bakelite.
C. Switches—Double pole, double throw, ample capacity.
D. Control Capacity—Break-in circuit on any transmitter up to 1 KW.

Coil

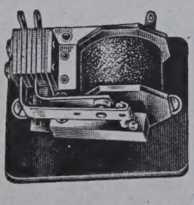
A. Standard coils operate on 50-60 cycle A. C. 110 volts. Coils for other voltages and currents, on specifications at 10% addition to list price.
B. Power Consumption—Standard coil requires approximately 8½ VA.

Applications

A. Break-in circuits in amateur transmitters.

B-100—2¾" long, 2⅛" high, 2¼" wide. Shipping weight 11 oz.
List Price $8.60 ea. **Net Price $5.16 ea.**

K-100 KEYING RELAYS



Low voltage relays controlling high voltage transmission. Relay will follow key or bug at highest WPM rate attainable. High speed of response, plus strong magnet and return spring, gives a clean make and break, producing the best CW note.

OPERATING DATA

Contacts

A. Points—Oversize silver. Handle 1500 watts on 60 cycle non-inductive 110 volt A. C. and in A. C. primary circuit of any inductive power supply delivering up to and including 1 KW.
B. Insulation—High test bakelite. Unit will withstand 5000 volts to ground.
C. Switches—Compact, single pole, single throw. Design of leaves give exceptionally fast response.
D. Control Capacity—Up to 2000 volts with clean make and break.

Coil

A. Standard coils operate on 1½ to 4 volts D. C., 5 to 16 volts A. C. Power consumption on A. C., approximately 1½ V. A., D. C. approximately 1 watt. Coils for other voltages on specification at 10% addition to list price.

Applications

Control of battery receivers, transmitters using filament center tap keying of any stage having up to 2000 volts on plate, primary keying or control of power supplies up to and including 500 watts and grid-controlled rectifier keying of 3000 volt power supplies.

K-100—2¾" long, 2¼" wide, 1⅞" high. Shipping weight 10 oz.
List Price $6.30 ea. **Net Price $3.78 ea.**

CIRCUIT DIAGRAMS FURNISHED ON REQUEST

PRICE *Brothers Co.* RELAYS

FREDERICK, MARYLAND

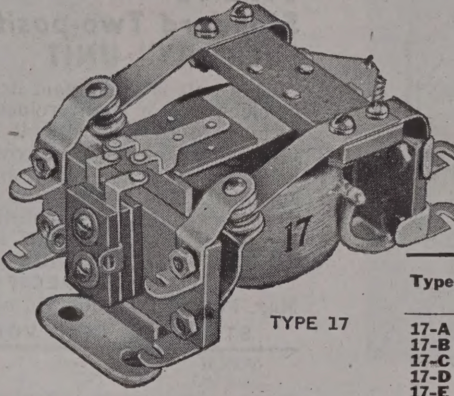
PRICE BROTHERS CO.—FREDERICK, MD.
HUSKY
RELAYS AND CONTROLS

30 years of Relay Specialization

RADIO FREQUENCY AND GENERAL PURPOSE RELAYS

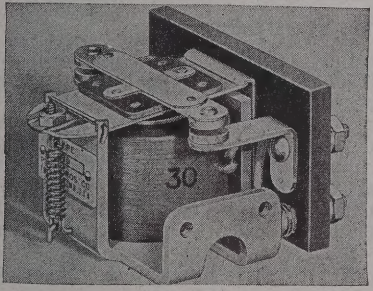
The Type 17 series of relays were designed primarily to provide a general purpose relay which may be used in a variety of transmitter and receiver circuits. This series of relays can be furnished in phenolic insulation for low-voltage circuits, or ceramic insulation for use in radi-frequency circuits. Quite frequently this type of relay will fulfill all the relay requirements in a given design, thus, simplifying the wiring and mounting of the relays. In the design of these relays are many special features not usually found in relays of this price range such as; self-wiping contacts, all metallic parts plated, and vacuum impregnated coils. Contacts are ¼″ fine silver rated at 10 amperes. Coil voltages: 6, 12, and 24 V. D.C., 115 V. A.C.

Dimensions—2$\frac{25}{32}$″ x 1⅝″ x 1$\frac{7}{16}$″



TYPE 17

Type	Contact Arrangement	$\frac{5}{32}$ Aux. Contacts	Insulation	**List Price**
17-A	DP-ST-NO		Phenolic	**$7.85**
17-B	DP-DT		Phenolic	**8.40**
17-C	DP-DT	SP-NO	Phenolic	**9.55**
17-D	DP-ST-NO		Ceramic	**7.85**
17-E	DP-DT		Ceramic	**9.00**
17-F	DP-DT	SP-NO	Ceramic	**10.10**

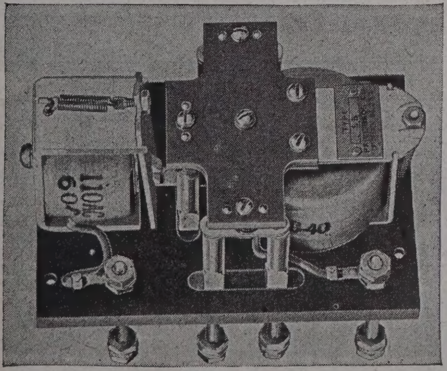


TYPE 30

GENERATOR STARTING RELAY

The Type 30 is a rugged compact relay especially designed for motor generator starting service. The compact design, with all terminal connections on one end, make this relay ideally suited for use in police mobile transmitters, amateur portable mobile transmitters, and portable amplifiers. Contacts are ⅜″ diameter fine silver, rated at 40 amperes continuous duty. All terminals are mounted on a ¼″ thick bakelite panel for ease in wiring. The relay can be mounted in any position by means of two 8-32 tapped holes provided in the mounting bracket.

Dimension—2$\frac{13}{16}$″ x 2$\frac{13}{16}$″ x 1$\frac{19}{32}$″
Coil Voltage—6, 12, 24 V. D.C.
LIST PRICE **$8.40**



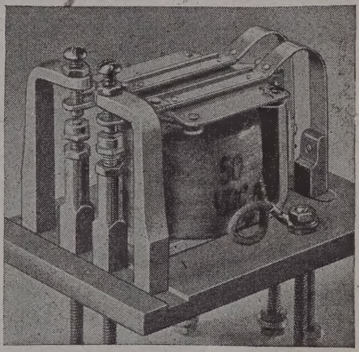
TYPE 55

HIGH SPEED KEYING RELAY

These relays are designed specifically for transmitter keying application where the utmost in keying characteristics are required at speeds up to 50 words per minute. These features have been achieved by the use of a very light weight armature assembly, and a special magnetic structure made of high grade silicon steel.

The stationary contacts are adjustable, and may be readily replaced and adjusted in the field. All contacts are insulated from each other and from ground for 300 volts D.C. The relays are for panel mounting and are furnished with back connection terminal studs. They will be furnished with a cover if specified.

Reference to the table at the right will show the standard contact arrangements available, and the characteristics of the 50 volt D.C. coil. Other operating coil voltages are available.



Type	Contact Arrangement	Coil Voltage	Coil Resistance Ohms	Watts	**List Price**
16	SPST NO	50 VDC	1000	2.5	**$25.85**
27	DPST NO	50 VDC	1000	2.5	**20.25**
33	SPST SPDT	50 VDC	1000	2.5	**40.50**

LATCHING TYPE ELECTRICAL RESET RELAYS

The mechanical arrangement of this type of relay is such that after the pull-in coil is momentarily energized, the armature carrying the contacts closes and latches mechanically. When the trip coil is momentarily energized the armature opens.

This type of relay fits many applications where it is not desirable to have current on the relay coil continuously, or where momentary start-stop push button control is desired.

The standard relay is for 115V, AC operation, but DC or combinations of AC and DC coils can be furnished in voltages up to 230.

The contacts are ¼″ diameter fine silver of the bridging type and are rated at 15 Amperes AC non-inductive.

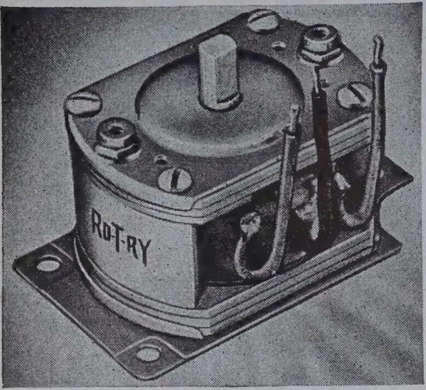
Since the relays are designed primarily for panel mounting, the standard models are furnished with back connection terminal studs of any length specified.

Type	Contact Arrangement	Over All Dimensions			**List Price**
		B	C	D	
55	3PST-NO	4¾″	3¼″	2⅜″	**$30.35**
57	2PST-NO 1PST-NC	5⅜″	3⅛″	2⅜″	**24.75**
58	2PST-NO	4⅝″	3⅛″	2⅜″	**31.50**
59	1PNO-1PNC	5¼″	4¼″	2⅜″	**33.75**
60	3PST-NO	5⅜″	3⅛″	2⅝″	**24.75**

Dimension "A" to be specified.

PRICE *Brothers Co.* RELAYS

FREDERICK, MARYLAND



TYPE 76

TYPE 76
Standard Two-position "RO-T-RY" UNIT

This unit is a compact driving mechanism providing up to 30° of clockwise or counterclockwise rotation. When the unit is used to operate a standard switch wafer, one normally closed contact is required for the relay coil circuit. However, if wafers are not used; a side mounting auxiliary switch will be provided if specified. This unit can be supplied for DC operation only.

Space required for mounting is as follows: Base 2-17/32 x 1½". Height exclusive of shaft extension 1-5/16".

LIST PRICE $11.25

TORQUE SPECIFICATION (at min. voltage)

Max. Forward Torque 8½ oz. in. Max. Spring Return 8½ oz. in.

STANDARD COIL VOLTAGES AND COIL CURRENT

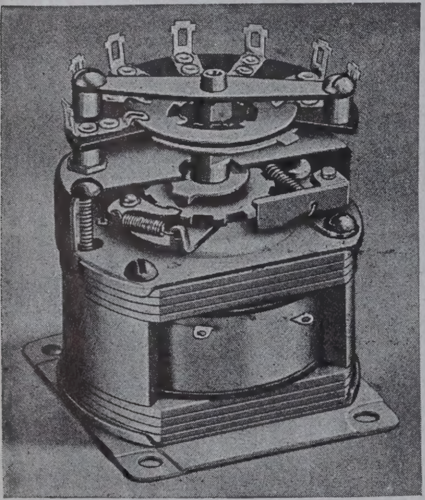
Normal Volts DC	Min. Volts DC	Max. Volts DC	Coil Current at normal voltage	
			†Start	Hold
14	9	16	7 amps.	250 MA
28	18	32	3.7 amps.	125 MA

TYPE 82 "RO-T-RY" *Stepper*

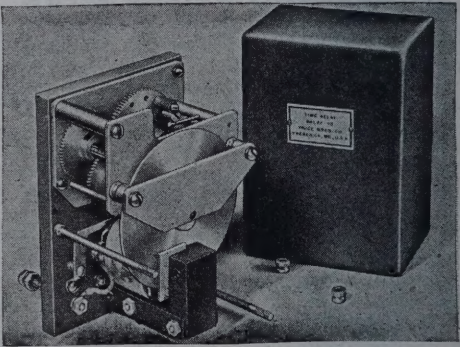
The standard stepping unit is a compact twelve-position driving mechanism which will operate a shaft extension through 360° in twelve progressive steps. The unit is designed for one step indexing for each current impulse and can be made to operate either clockwise or counterclockwise. The actuator can be furnished with either a spring or a magnetic drive. This unit can be supplied with 12 or 24 VDC coils. The total operating current depends on the total torque requirement of the unit which should not be in excess of 12 oz. in. This unit can be supplied with DC operation only.

Space required for mounting is as follows: Base 2" x 1⅞"—Height exclusive of shaft extension is 1 35/64" ± 1/64".

LIST PRICE...$22.50



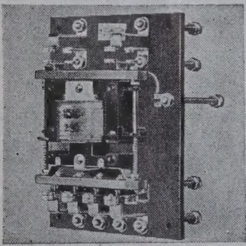
TYPE 92 → TIME DELAY RELAY



The Type 92 Time-Delay Relay is a high quality relay recommended for use in equipment where absolute reliability is demanded under the most severe temperature and humidity conditions. The relay represents a departure from conventional motor-driven time-delay design in that the driving motor is of the induction disc type. This design provides a reliable slow speed, high torque motor, which consists of an aluminum disc rotating in the air gap of a high efficient laminated AC field structure. This design is responsible for the reliable operation of this relay at temperatures as low as —40 degrees Centigrade, where conventional synchronous clock motor types fail due to the drag caused by lubricating oils at this low temperature.

The standard model allows a time-delay up to 55 seconds adjustable in 5 second steps. Contact arrangement is SP-ST-NO with 3/16" diameter fine silver contacts rated at 5 amps. Operating voltages for this relay are 115 Volts, 60 Cycles AC, and 220 Volts, 60 Cycles, AC.

Dimension—5" x 3⅝" x 2-15/16". **LIST PRICE...$61.85**



A. C. PLUNGER TYPE RELAYS

The special feature of this line of relays is the sturdy, highly efficient and powerful AC solenoid, around which the various contact arrangements and assemblies are built.

In the design of this solenoid, the prime consideration was the complete elimination of all AC chatter and hum usually associated with this type of construction. This highly desirable feature is due largely to the fact that all the pole faces are accurately ground, after the laminations are completely assembled and riveted.

Due to the complete absence of noise and vibration, these relays are especially suited for use in radio transmitters and other sensitive communications equipment.

Since this relay has been designed primarily for this field, it is of the panel mounting type, with back connection terminal studs furnished any length specified by the customer.

Any of the types listed below may be furnished with ceramic insulation for high voltage or RF applications.

The contacts are all of the double break or bridging type, and are either ⅜" or ½" dia. fine silver, depending on the rating desired. Reference to the table will show the various contact arrangements, contact ratings, coil voltages and insulations which are standard.

Type	Contact Arrangement	AC Coil Voltage	Overall Size		Insulation	Contact Size	**List Price**
			Length	Width			
100	2P-NO-3P-NC	115—230	4¾"	6⅝"	Phenolic	⅜" or ½"	**/33.75**
102	1P-NO-1P-NC	115—230	4¾"	4¾"	Phenolic	⅜" or ½"	**27.00**
106	2P-NO-4P-NC	115—230	4¾"	6⅝"	Phenolic	⅜" or ½"	**31.50**
107	2P-NO-2P-NC	115—230	4¾"	6⅝"	Phenolic	⅜" or ½"	**29.25**
109	3P-NO-1P-NC	115—230	4¾"	6⅝"	Phenolic	⅜" or ½"	**31.50**
110	3P-NO	115—230	4¾"	5½"	Phenolic	⅜" or ½"	**28.10**
111	4P-NO-4P-NC	115—230	4¾"	6⅝"	Phenolic	⅜" or ½"	**40.50**
116	3P-NO-3P-NC	115—230	4¾"	6⅝"	Phenolic	⅜" or ½"	**31.50**

*** Note;** ⅜" dia. fine silver contacts rated at 20 amps AC
½" dia. fine silver contacts rated at 40 amps AC

DIMENSION "A" to be specified by Customer.

SIGMA

Sensitive RELAYS

SERIES 4 RELAYS

TYPE 4R

Cover: 1½″ x 1½″ x 2⅝″ high above socket.

Mounting: by standard 5-pin tube base.

Connections: by standard tube socket.

List Price: $6.50.

GENERAL SPECIFICATIONS: Balanced armature construction of series 4 relays assures positive operation under extreme vibration and shock as experienced in aircraft service.

INPUT must be DC on all types except those designated for AC input. In stationary service inputs as low as 6 milliwatts provide satisfactory operation; but where vibration is present as in aircraft service the input should be a minimum of 30 to 50 milliwatts.

LOAD CAPACITIES range from 1 ampere at 115 volts AC to as high as 20 amperes at 24 volts DC according to input power, nature of load, duty cycle, and required life expectancy.

OPERATING SPEED varies from 1/60 to 1/1000 second, depending upon ratio of "R" to "L" in coil circuit. Releasing speed is usually greater.

LIST PRICES shown are for relays with coils of 2000 ohms or less. For coils of 5000, 8000, or 10,000 ohms add $.50 to list prices. For 14,000 ohm coil add $1.00 to list prices.

HERMETICALLY SEALED RELAYS

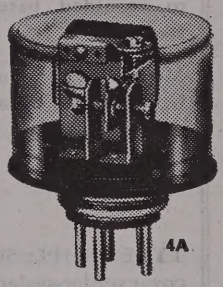
TYPE 4AH: Same as Type 4A but with cover sealed by gasket to moulded base. 2⅛″ diameter.
List Price: $6.50.

TYPE 4AHPL: Same as Type 4APL but with cover sealed by gasket to moulded base. 2⅛″ diameter.
List Price: $6.50.

TYPE 4RHPL: Similar to Type 4R but with cover solder-sealed to glass base and with soldering lugs and mounting ears instead of 5-pin base. (See illustration of 5RHPL).
List Price: $8.50.

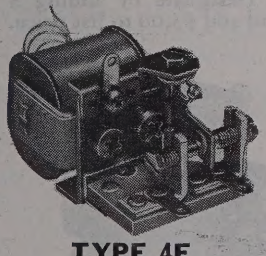
TYPE 4A

Cover: $2^3/_{16}$″ diameter snap-on; 2″ above socket.
Mounting: by standard 5-pin tube base.
Connections: by standard tube socket.
List Price: $6.50.



TYPE 4APL

Cover: $2^3/_{16}$″ diameter snap-on; 1¾″ high.
Mounting: 3 mounting ears on $2^{13}/_{32}$″ diameter.
Connections: soldering lugs under base.
List Price: $6.50.



TYPE 4F

Without cover or base.
Mounting: Two #6-32 screws on ⅜″ centers.
Connections: Coil leads; contact lugs.
List Price: $5.50.

SPECIAL PURPOSE RELAYS

For AC Input, Types 4R and 4RHPL are available with built-in dry rectifier in full-wave bridge with filter condenser. Height is increased to 3¼″.

Designate by adding S to type and add $3.00 to list price.

FOR CLOSE DIFFERENTIAL with substantial inputs series 4 relays can be factory adjusted to drop out up to 95% of pull-on voltage.

FOR HIGH SPEEDS of operation with long life expectancy, as for keying, special types of pivots are available at slight extra cost.

CONSTANT VOLTAGE RELAYS which operate at a definite voltage regardless of varying temperatures are available with some sacrifice of sensitivity, and in various types.

AC COILS can be supplied for specific applications on all series 4 relays.

In ordering or asking for quotations give all possible details of circuit, environment, operating conditions, tolerances, and life expectancy.

Sigma Instruments, INC. 64 CEYLON STREET
BOSTON 21, MASS.

SIGMA

SIGMA *Sensitive* RELAYS

SERIES 5 RELAYS

TYPE 5R

Cover: 1½" x 1½" x 2¼" high (above socket).

Mounting: by standard 5-pin tube base.

Connections: by standard tube socket.

List Price: $8.00.

GENERAL SPECIFICATIONS: Double coil design combined with balanced armature construction makes the series 5 relays remarkably sensitive, rugged and compact. They maintain adjustment through a temperature range of −60 to +90 degrees centigrade. Shocks of 500 g will not disturb adjustment or damage the relay in any way when solidly mounted.

INPUT must be DC on all types except those designated for AC input. In stationary service inputs as low as 0.5 milliwatts provide satisfactory operation; but where vibration is present, as in aircraft service, 5.0 milliwatts is usually adequate. This offers contact pressures of 25 to 50 grams, sufficient for uninterrupted contact under vibration of more than 11 g's.

LOAD CAPACITIES range from 1.0 amperes at 115 volts AC to as high as 10 amperes at 24 volts DC according to input power, nature of load, duty cycle, and required life expectancy.

OPERATING SPEED is not as great as on Series 4 relays, varying from 1/20 to 1/100 sec., depending on circuit conditions.

LIST PRICES shown are for relays with coils of under 1000 ohms. For coils of 1000 to 8000 ohms add $.50 to list prices. For coils over 8000 ohms add $1.00 to list prices.

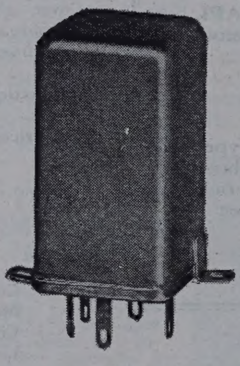
HERMETICALLY SEALED RELAYS

TYPE 5AH has 2³⁄₁₆" dia. cover sealed to moulded base; height 1⅝" above socket.

Mounting: by standard 5-pin base.
Connections: by standard socket.
List Price: $8.00.

★

TYPE 5RHPL: Similar to 5R but with cover solder-sealed to glass base and with soldering lugs and mounting ears instead of 5-pin base. (See illustration.)
List Price: $10.00.



5RHPL

MOUNTING FORMS

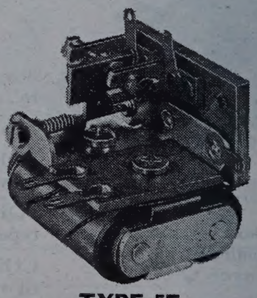
In addition to plug-in types, Sigma relays are available with side ears or spade bolts for mounting on metal chassis with lugs passing through a center hole for connection below deck. Another form includes a metal plate welded to the far end of the cover away from the lugs permitting wiring above deck.

FOR AC INPUT

Types 5F, 5R and 5RHLP are available with dry rectifier in full-wave bridge. Dimensions are not changed. Designate by adding S to type and add $3.00 to list price.

SPECIAL APPLICATIONS

The double coil design of the Series 5 relay permits many ingenious applications in control circuits. By separate coil connections (on special order) each coil can be energized by a separate source polarized to produce aiding or opposing forces. The relay then operates on the sum or difference of these forces according to polarity.



TYPE 5F

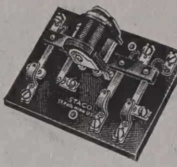
Without cover or base. Mounting: 2 #6-32 screws on 25/32" centers.
Connections: lugs.
List Price: $7.00.

When ordering or asking for quotations, give all possible details of circuit, environment, operating conditions, tolerances, and life expectancy.

Sigma Instruments, INC. 64 CEYLON STREET
BOSTON 21, MASS.

QUALITY STACO RELAYS

STACO BREAK-IN RELAYS



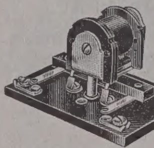
These relays are commonly known as Push-To-Talk relays. The operator merely presses a push-button while transmitting and releases it when receiving. Large contact spacing and insulation make these units ideal for high voltage and general control applications. Relays have a ball bearing armature pivot, are made of the finest magnetic iron, and have 4 ampere, $\frac{3}{16}$" fine silver contacts. There are four poles: DPDT, SPST (normally open), and SPST (normally closed) for complete break-in operation.

Size: 4½" x 3⅛" x 2$\frac{3}{16}$"

PRICES AND MODELS

Type	Insulation	Coil Voltage	Net Prices
BBA	TRIPLE-X	110 V. AC	$4.20
BBD	TRIPLE-X	6 V. DC	4.20
BMA	MYCALEX	110 V. AC	6.00
BMD	MYCALEX	6 V. DC	6.00

STACO GENERAL PURPOSE AND RADIO FREQUENCY RELAYS



A fine relay for R.F or high voltage remote control. 4-ampere, $\frac{3}{16}$" fine silver contacts. Extremely short R.F. path. No AC chatter. Ball-bearing floating armature pivot. Highest quality iron in magnetic path. All metal parts are cadmium plated.

These units are ideal for industrial control applications. The large contact spacing and wiping action makes these units applicable to solenoid control.

The RB series are Triple-X insulated for frequencies up to 15 MC, while the RM series are MYCALEX insulated for frequencies up to 60 MC.

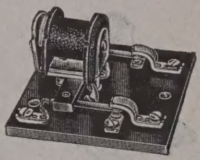
All AC coils consume 4 watts, DC coils consume 2 watts.

Size: 2¼" x 3⅛" x 2$\frac{3}{16}$"

PRICES AND MODELS

Type	Insulation	Contact Combination	Coil Voltage	Net Prices
RBA-1	TRIPLE X	SPST (dble.-break)	110 V. AC	$2.10
RBD-1	TRIPLE-X	SPST (dble.-break)	6 V. DC	2.10
RMA-1	MYCALEX	SPST (dble.-break)	110 V. AC	2.55
RMD-1	MYCALEX	SPST (dble.-break)	6 V. DC	2.55
RBA-2	TRIPLE-X	DPST (sgle.-break)	110 V. AC	2.25
RBD-2	TRIPLE X	DPST (sgle.-break)	6 V. DC	2.25
RMA-2	MYCALEX	DPST (sgle.-break)	110 V. AC	3.00
RMD-2	MYCALEX	DPST (sgle.-break)	6 V. DC	3.00

STACO CHANGE-OVER RELAYS



Fine radio frequency relays designed especially for use in low power transmitters where transmission and reception are near the same frequency and where radio frequency currents do not exceed 4 amperes. By connecting the coil of the relay across 110 volt, 60 cycle primary of the plate supply transformer, the antenna is automatically switched from the transmitting to the receiving position, when the transmitter is off.

Triple-X insulation for operation up to 15 MC, while MYCALEX is satisfactory for operation up to 60 MC. Wiping fine silver 4-ampere, $\frac{3}{16}$" contacts, ball-bearing armature pivot, large contact spacing with minimum of capacity between contact arms. Well designed armature structure eliminates all AC chatter.

Size: 3⅛" x 3⅛" x 2$\frac{3}{16}$"

PRICES AND MODELS

Type	Insulation	Coil Voltage	Net Prices
ABA	TRIPLE-X	110 V. AC	$3.00
ABD	TRIPLE-X	6 V. DC	3.00
AMA	MYCALEX	110 V. AC	4.00
AMD	MYCALEX	6 V. DC	4.00

STACO COMMUNICATION RELAYS

Admirably suited for use in telephone, remote control, signaling, communication circuits, etc. High sensitivity combined with high contact pressure makes these units ideal for use in plate circuits of electronic tubes. These relays are capable of high speed operation and may be used for marginal and on off control. Contacts will handle 4 amperes at 110 volts AC for non-inductive loads. Each relay has one make and one break contact sets. Relays having two make (designated MM) or two break (designated BB) contact sets can be supplied at no extra charge. Coils can be left in the circuit continuously when used according to their ratings.

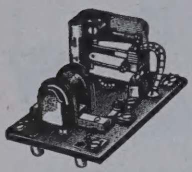
Size: 3¾" x 1$\frac{3}{16}$" x 1⅝"

SPECIFICATIONS AND PRICES

Type	Res. of Coil Ohms	Volts Pick-up	M. A. Pick-up	Net Prices
T10G	10,000	31	3.2	$3.30
T63F	6,300	24	4.0	3.30
T40F	4,000	19	5.0	3.15
T10F	1,000	10	10.0	2.85
T25E	250	5	20.0	2.55

QUALITY STACO RELAYS

STACO TIME DELAY RELAYS



Low cost thermostatic time delay relays designed for transmitting and industrial uses. Prevents damage to tube filaments from application of plate current before the filaments are sufficiently hot.

The wiring of these relays is such that the closing of the A.C. line switch starts the heating of the heater element. The relay then operates after a definite delay electrically locking itself in the closed position through a contact set. The timer circuit is also broken at this time allowing the timing element to cool for the next cycle.

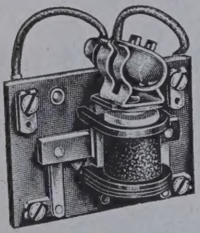
The TD-11 relay is so equipped that it automatically compensates itself for ambient temperature changes. These relays are adjustable for delays shown below by means of a screw driver adjustment. Stock models are 110 volt A.C.

Size: 5" x 3⅛" x 2⅝"

PRICES AND MODELS

TD- 4 (15-45 Sec.)	—Without compensator	**Net**	**$4.50**
TD-11 (5-60 Sec.)	—With compensator	**Net**	**6.45**

STACO MERCURY-SWITCH RELAYS



This type of relay is used for controlling inductive loads and may be safely used in the presence of explosive dust, gas, or vapors which would constitute a fire hazard if used with exposed contacts. This relay can safely handle a ¼ H.P. motor or its equivalent.

The single-pole, single-throw contact mercury switch can be changed from a normally-open to a normally-closed position by simply reversing the tube in the clip. This relay is also equipped with a SPST, double-break, $\frac{3}{16}$" fine silver contact set which can be used for electrically locking the coil circuit of the relay or for other applications.

The relay is designed for vertical mounting, and adjusting screws are furnished to level off the relay in case the panel is not exactly vertical.

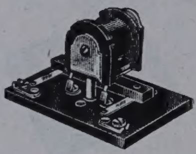
The power input of the AC models is 4 watts, and the power input of the DC models is 2 watts.

Size: 3⅛" x 2⅞" x 3½"

PRICES AND MODELS

Type	Coil Voltage	Net Prices
MSA	110 V. AC	**$3.75**
MSA-6	6 V. AC	**3.75**
MSD-6	6 V. DC	**3.75**

STACO KEYING RELAYS



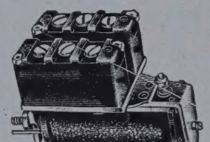
These relays are essentially the same as the Type RBA-1 relays only that the coil and return springs are stronger so that the units are adapted to high speed operation. The contacts are SPST (double-break), are widely spaced, and will break voltages of 1,500 volts. Follows a "bug" easily. Not recommended for any other applications except keying; for other applications see Types RBA-1, etc. Quality construction, bakelite insulation, $\frac{3}{16}$" fine silver contacts. Well insulated to ground.

Size: 2¼" x 3⅛" x 2$\frac{3}{16}$"

PRICES AND MODELS

Type	Coil Voltage	Contacts	Net Prices
KBA	110 V. AC	SPST (double-break)	**$2.10**
KBD	6 V. DC	SPST (double-break)	**2.10**
KBA-6	6 V. AC	SPST (double-break)	**2.10**

STACO SENSITIVE POWER RELAYS



The STACO Type CM relay is a sensitive DC telephone type relay equipped with snap-action switches of a unique design.

These relays find application for locations subject to sudden jarring, vibration, or tilting.

All relays will control 1 H.P. on 115 volts A.C. or 1½ H.P. on 230 volts A.C. on each snap-switch with a small amount of current flowing through the coil circuit.

Two models with various coil resistances listed below are available. The contact combination on the CMA model is SPDT (one snap-switch) and the contact combination on the CMB models is DPDT (two snap-switches).

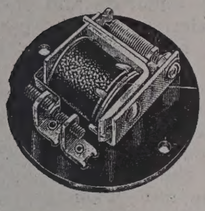
Size: 1$\frac{3}{16}$" x 2$\frac{9}{16}$" x 3¾" (single)
1⅞" x 2$\frac{9}{16}$" x 3¾" (double)

SPECIFICATIONS AND MODELS

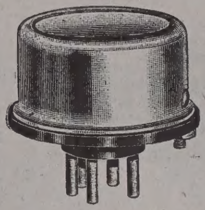
Type	Res. of Coil Ohms	Volts Pick-up	M.A. Pick-up	Contacts	Net Prices
CMA-10G	10,000	59.1	5.91	SPDT	**$5.25**
CMA-63F	6,300	47.0	7.45	SPDT	**5.25**
CMA-40F	4,000	37.4	9.36	SPDT	**4.75**
CMA-10F	1,000	18.7	18.70	SPDT	**4.25**
CMA-25E	250	9.4	37.40	SPDT	**3.75**
CMB-10G	10,000	77.5	7.75	DPDT	**7.50**
CMB-63F	6,300	61.5	9.76	DPDT	**7.50**
CMB-40F	4,000	49.0	12.25	DPDT	**7.00**
CMB-10F	1,000	24.5	24.50	DPDT	**6.50**
CMB-25E	250	12.3	49.00	DPDT	**6.00**

QUALITY STACO RELAYS

STACO SENSITIVE RELAYS



Relay



Complete Assembly

These relays are especially designed for use in electronic and delicate control applications, and are extensively used for closed-circuit burglar alarm systems and photo-electric applications.

The Type SR relay has a sensitivity of 12 milliwatts D.C. and will control 150 watts of non-inductive load at 110 volts A.C. when the input power is 12 mw.

The SR relay is equipped with a standard 5 prong plug enabling the use of standard vacuum tube sockets. This feature allows manufacturers to completely assemble and wire their apparatus using a standard tube socket and thus to carry a small relay inventory. This plug-in feature allows rapid replacement on alarm circuits or other apparatus in the field.

The dust cover is easily removed should it become desirable to change the relay characteristics. The movable contact is spun to a phosphor bronze spring, the design of which gives a visible wipe action which keeps the contacts clean.

The SPDT adjustable contacts are fine silver and are self-cleaning. The armature spring-tension, contact spacing, and armature-gap are adjustable for specific pick-up and drop-out characteristics.

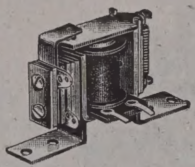
The dust cover is cadmium plated and the base and plug are of black bakelite. The top of the case is transparent for observation purposes and is unbreakable.

Size: 2¼″ diam. x 1¼″ high (excludes prongs)

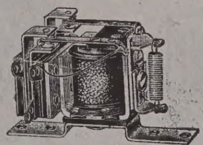
SPECIFICATIONS AND PRICES

Type	Res. of Coil Ohms	Volts Pick-up	M.A. Pick-up	Net Prices
SR-50A	50	.8	15.5	$4.50
SR-10B	100	1.1	10.9	4.50
SR-25B	250	1.75	6.85	4.50
SR-50B	500	2.45	4.9	4.50
SR-10C	1000	3.45	3.48	4.50
SR-20C	2000	4.9	2.45	4.50
SR-50C	5000	7.75	1.55	5.00

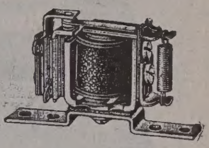
STACO MINIATURE RELAYS



D.C. Type



DPDT Type



A.C.

STACO sensitive miniature relays are constructed of the finest grade of materials and workmanship and yet are very low priced. These units are very compact and are especially designed for plate circuit and general purpose control applications.

Types MR-2 and MRD-2 have a 2500 ohm coil and will pick-up at 6 ma. and 12 ma. respectively. Types MR-5 and MRD-5 have coils of 5000 ohms resistance and will pick-up at 3 ma and 7.5 ma. respectively. The drop-out values on these relays are approximately 50% of the pick-up values.

The pick-up and drop-out values given are average and may be changed by such adjustments as the spring tension, armature gap, or residual gap, all of which are adjustable on these relays. The contact spacing is also adjustable.

All AC units are free of hum and AC chatter. The input power of all AC relays is 2 watts. All contacts are fine silver and are rated at 5 amperes at 110 volts AC. All metal parts are cadmium plated with the exception of the contacts.

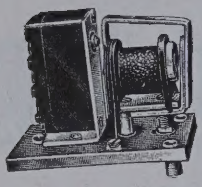
Size: 1⅞″ x 1⅜″ x ⅞″ (MR Model)
1⅞″ x 1⅜″ x 1¼″ (MRD Model)

MODELS AND PRICES

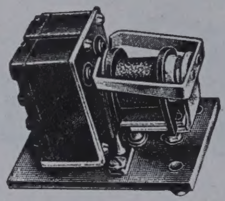
Type	A.C.	D.C.	Contacts	Net Prices
MR-2		Plate Circuit	SPDT	$1.50
MR-5		Plate Circuit	SPDT	2.10
MR-6		6 V.	SPDT	1.50
MR-7	6 V.		SPDT	1.59
MR-11	110 V.		SPDT	1.59
MRD-2		Plate Circuit	DPDT	2.70
MRD-5		Plate Circuit	DPDT	3.60
MRD-6		6 V.	DPDT	2.70
MRD-7	6 V.		DPDT	3.00
MRD-11	110 V.		DPDT	3.00

QUALITY STACO RELAYS

STACO POWER RELAYS



Model PM-1



Model PM-2

The STACO Type PM relay is a general purpose unit for controlling large loads where a compact low priced relay is desirable.

This relay is extremely reliable and is fast in operation. Applications will include locations where the relay is subject to sudden jarring, tilting, or vibration.

The snap-action switches which replace the contacts on these relays are of unique design, and each switch will control a 1 H.P. motor on 115 volts A.C. or a 1½ H.P. motor on 230 volts A.C. Each switch will control 10 amperes at 115 volts A.C. and 5 amperes at 230 volts A.C.

Two models of the PM relay are available, one with a single snap-action switch (SPDT) known as Type PM-1, and the other with two snap-action switches (DPDT) known as Type PM-2.

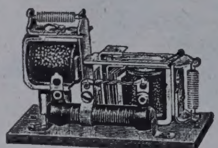
All A.C. models have an input of from 4 to 5 watts, and the D.C. models have an input of from 2 to 3 watts. The base of these relays is of bakelite, and all parts are either cadmium or nickel plated. All terminals are top-connecting.

Size: 3⅛" x 2¼" x 2⅝" (both models)

MODELS AND PRICES

Type	Coil Voltage	Contacts	Net Prices
PMA-1	110 V. A.C.	SPDT	$4.05
PMA-2	110 V. A.C.	DPDT	6.00
PMC-1	6 V. A.C.	SPDT	4.05
PMC-2	6 V. A.C.	DPDT	6.00
PMD-1	6 V. D.C.	SPDT	4.05
PMD-2	6 V. D.C.	DPDT	6.00

STACO OVERLOAD RELAYS



Adjustable overload relays provide accurate and positive protection against current surges and continuous overloads.

The operation of these relays is such that when the current passes the point for which the relay is set, the $\frac{3}{16}$" fine silver contacts open the plate supply circuit until the relay is reset and the overload condition removed.

The contact combination is SPDT allowing an audible or visual signal to be used to advise that an overload has occurred.

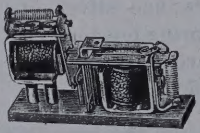
All models are of the electrical reset type which will allow the remote control resetting of the relay.

Size: 3¾" x 2" x 1½"

SPECIFICATIONS AND PRICES

Type	Current Range	Reset Coil	Net Prices
OA-2	250- 500 ma.	110 V. A.C.	$4.50
OA-5	500-1000 ma.	110 V. A.C.	4.50
OC-2	250- 500 ma.	6 V. A.C.	4.50
OC-5	500-1000 ma.	6 V. A.C.	4.50
OD-2	250- 500 ma.	6 V. D.C.	4.50
OD-5	500-1000 ma.	6 V. D.C.	4.50

STACO LATCHING RELAYS



These relays are employed where it is not desirable to have current continuously on the coil. The latching arrangement is such that when the relay coil is energized, the armature closes and is locked in the closed position by a mechanical latch. An electrical impulse on the reset coil of the relay releases the armature from the latch and allows the relay to assume its initial position.

The contacts are SPDT $\frac{3}{16}$" fine silver. The base is bakelite.

Size: 3¾" x 2" x ¾"

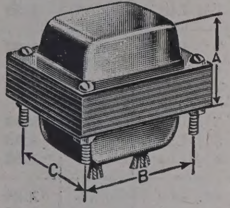
MODELS AND PRICES

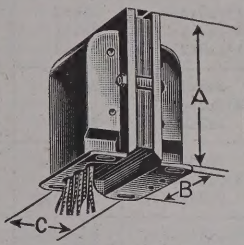
Type	Reset Coil	Pull-in Coil	Net Prices
LEA	110 volts AC	110 volts AC	$3.75
LEA-6	6 volts AC	6 volts AC	3.75
LED	6 volts DC	6 volts DC	3.75

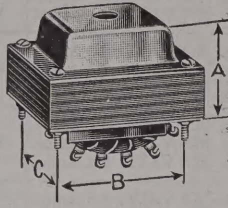
utah TRANSFORMERS

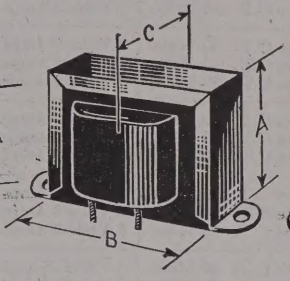
A complete line of replacement transformers designed to service the requirements of practically any radio set on the market. Utah Transformers are standard equipment in millions of receivers throughout the world—definite proof of their reliability and performance under all operating conditions—your assurance of permanently satisfied customers. Fully impregnated and climate-proof.

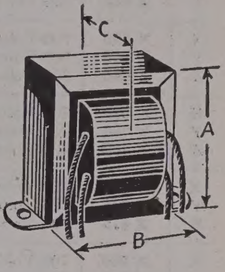
First letter in Part No. designates mounting style; next number principal filament voltage; next two numbers, total mills output. A letter at end designates additional filaments — E is 3 filaments, G is 5 filaments. No letter means 2 filaments.











2½ VOLT TUBE POWER TRANSFORMERS — 2 FILAMENTS

Style	**Stock Number**	A.C. Plate Volts	Filament No. 1	Filament No. 2	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	**Net Price**
X	**X 240**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	1½x3 x2½	2½x2	2 Lbs.	$2.00	**$1.20**
Y	**Y 240**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	3⅛x2½x2⅜	2x1½	2 Lbs.	2.25	**1.75**
Z	**Z 240**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	1½x3 x2½	2½x2	2 Lbs.	1.85	**1.84**
X	**X 245**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 7 Amps.	1¾x3 x3½	2½x2	2½ Lbs.	2.90	**1.60**
Y	**Y 245**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 7 Amps.	3⅛x2½x2⅝	2x1¾	2¾ Lbs.	3.00	**1.45**
Z	**Z 245**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 7 Amps.	1¾x3 x2½	2½x2	2¼ Lbs.	2.75	**1.64**
X	**X 250**	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 5 Amps.	1¾x3 x2½	2½x2	2½ Lbs.	2.40	**1.35**
Y	**Y 250**	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 5 Amps.	3⅛x2½x2⅝	2x1¾	2¾ Lbs.	2.75	**1.11**
Z	**Z 250**	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 5 Amps.	1¾x3 x2½	2½x2	2¼ Lbs.	2.25	**1.35**

2½ VOLT TUBE POWER TRANSFORMERS — 3 FILAMENTS

Style	**Stock Number**	A.C. Plate Volts	Filament No. 1	Filament No. 2	Filament No. 3	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List List	**Net Price**
X	**X 250E**	650 Volt C.T. 50 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 1¾ Amps.	2.5 V.C.T. 5¾ Amps.	2x3x2½	2½x2	3 Lbs.	$2.90	**$1.74**
Y	**Y 250E**	650 Volt C.T. 50 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 1¾ Amps.	2.5 V.C.T. 5¾ Amps.	3⅛x2½x2⅞	2x2	3¼ Lbs.	3.15	**1.89**
Z	**Z 250E**	650 Volt C.T. 50 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 1¾ Amps.	2.5 V.C.T. 5¾ Amps.	2x3x2½	2½x2	2¾ Lbs.	2.75	**1.65**
X	**X 260E**	700 Volt C.T. 60 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 1¾ Amps.	2.5 V.C.T. 7 Amps.	2x3x2½	2½x2	3 Lbs.	3.25	**1.95**
Y	**Y 260E**	700 Volt C.T. 60 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 1¾ Amps.	2.5 V.C.T. 7 Amps.	3⅛x2½x2⅞	2x2	3¼ Lbs.	3.50	**2.10**
X	**X 270E**	700 Volt C.T. 70 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 7 Amps.	3x3⅜x2 13/16	2 13/16x2¼	3¾ Lbs.	3.35	**2.01**
Y	**Y 270E**	700 Volt C.T. 70 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 7 Amps.	3½x2⅞x3⅛	2¼x2	4 Lbs.	3.75	**2.25**
Z	**Z 270E**	700 Volt C.T. 70 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 7 Amps.	2x3⅜x2 13/16	2 13/16x2¼	3½ Lbs.	3.20	**1.92**
X	**X 290E**	700 Volt C.T. 90 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 10½ Amps.	1⅞x3¾x3⅛	3⅛x2½	4 Lbs.	3.75	**2.25**
Y	**Y 290E**	700 Volt C.T. 90 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 10½ Amps.	3⅞x3¼x3⅛	2½x1 15/16	4¼ Lbs.	4.00	**2.40**
Z	**Z 290E**	700 Volt C.T. 90 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 10½ Amps.	1⅞x3¾x3⅛	3½x2½	3¾ Lbs.	3.60	**2.16**
X	**X 211E**	700 Volt C.T. 110 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 15¼ Amps.	2⅛x3¾x3⅛	3⅛x2½	4¾ Lbs.	4.90	**2.94**
Y	**Y 211E**	700 Volt C.T. 110 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 15¼ Amps.	3⅞x3¼x3⅜	2½x2 5/16	5 Lbs.	5.25	**3.15**
Z	**Z 211E**	700 Volt C.T. 110 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 3 Amps.	2.5 V.C.T. 15¼ Amps.	2⅛x3¾x3⅛	3⅛x2½	4½ Lbs.	4.75	**2.65**
X	**X 212E**	800 Volt C.T. 125 Mills.	5 Volt C.T. 3 Amps.	2½ Volt C.T. 3½ Amps.	2½ Volt C.T. 15 Amps.	2⅜x4⅛x3 1/16	3¾x3 7/16	5¾ Lbs.	5.50	**3.30**
Y	**Y 212E**	800 Volt C.T. 125 Mills.	5 Volt C.T. 3 Amps.	2½ Volt C.T. 3½ Amps.	2½ Volt C.T. 15 Amps.	4¼x3½x3¾	2¾x2 11/16	6 Lbs.	5.75	**3.45**
Y	**Y 216E**	850 Volt C.T. 160 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 8 Amps.	2.5 V.C.T. 14 Amps.	4⅝x3¾x3¾	3x2¾	7¼ Lbs.	5.95	**3.57**
Z	**Z 216E**	850 Volt C.T. 160 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 8 Amps.	2.5 V.C.T. 14 Amps.	2 7/16x4½x3¾	3¾x3	6¾ Lbs.	5.50	**3.30**
Y	**Y 220E**	850 Volt C.T. 200 Mills.	5 Volts 3 Amps.	2.5 V.C.T. 8 Amps.	2.5 V.C.T. 14 Amps.	4⅝x3¾x4⅛	3x3⅛	8¾ Lbs.	8.15	**4.89**

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

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6.3 VOLT TUBE POWER TRANSFORMERS — 2 FILAMENTS

Style	**Stock Number**	A.C. Plate Volts	Filament No. 1	Filament No. 2	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	**Net Price**
X	**X 640**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 1.6 Amps.	1½x3x2½	2½x2	2 Lbs.	$2.00	**$1.20**
Y	**Y 640**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 1.6 Amps.	3⅛x2½x2⅜	2x1½	2¼ Lbs.	2.25	**1.35**
Z	**Z 640**	650 Volts C.T. 40 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 1.6 Amps.	1½x3x2½	2½x2	2 Lbs.	1.80	**1.08**
X	**X 650**	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2 Amps.	1¾x3x2½	2½x2	2½ Lbs	2.70	**1.62**
Y	**Y 650**	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2 Amps.	3⅛x2½x2⅝	2x1¾	2¾ Lbs	2.95	**1.77**
Z	**Z 650**	700 Volts C.T. 50 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2 Amps.	1¾x3x2½	2½x2	2¼ Lbs	2.65	**1.59**
X	**X 660**	700 Volts C.T. 60 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2.5 Amps.	2x3x2½	2½x2	3 Lbs	3.00	**1.80**
Y	**Y 660**	700 Volts C.T. 60 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2.5 Amps.	3⅛x2½x2⅞	2x2	3¼ Lbs	3.45	**2.07**
Z	**Z 660**	700 Volts C.T. 60 Mills.	5 Volts 2 Amps.	6.3 V.C.T. 2.5 Amps.	2x3x2½	2½x2	2¾ Lbs	2.85	**1.71**
X	**X 675**	700 Volts C.T. 75 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3.2 Amps.	2x3⅜x2¹⁵⁄₁₆	2¹⁵⁄₁₆x2¼	3½ Lbs	3.30	**1.98**
Y	**Y 675**	700 Volts C.T. 75 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3.2 Amps.	3½x2⅞x3⅛	2¼x2	3¾ Lbs	3.65	**2.19**
Z	**Z 675**	700 Volts C.T. 75 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3.2 Amps.	2x3⅜x2¹⁵⁄₁₆	2¹⁵⁄₁₆x2¼	3½ Lbs	3.15	**1.89**
X	**X 690**	700 Volts C.T. 90 Mills.	5 V.C.T. 3 Amps.	6.3 V.C.T. 3.5 Amps.	2⅛x3¾x3⅛	3⅛x2½	4⅜ Lbs	3.75	**2.25**
Y	**Y 690**	700 Volts C.T. 90 Mills.	5 V.C.T. 3 Amps.	6.3 V.C.T. 3.5 Amps.	3⅞x3¼x3⅜	2½x2⁹⁄₁₆	5 Lbs	4.10	**2.46**
Z	**Z 690**	700 Volts C.T. 90 Mills.	5 V.C.T. 3 Amps.	6.3 V.C.T. 3.5 Amps.	2⅛x3¾x3⅜	3⅛x2½	4½ Lbs	3.60	**2.16**
X	**X 612**	750 Volts C.T. 125 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 5 Amps.	2⅛x3¾x3⅛	3⅛x2½	5 Lbs	3.90	**2.34**
Y	**Y 612**	750 Volts C.T. 125 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 5 Amps.	3⅞x3¼x3⅜	2½x2⁹⁄₁₆	5¼ Lbs	4.35	**2.61**
Z	**Z 612**	750 Volts C.T. 125 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 5 Amps.	2⅛x3¾x3⅛	3⅛x2½	4¾ Lbs	3.75	**2.25**
Y	**Y 616**	800 Volts C.T. 160 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 6 Amps.	4¼x3½x3¾	2¾x2¹¹⁄₁₆	6 Lbs	5.75	**3.45**

6.3 VOLT FILAMENT POWER TRANSFORMERS — 3 FILAMENTS

Style	**Stock Number**	A.C. Plate Volts	Filament No. 1	Filament No. 2	Filament No. 3	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	**Net Price**
X	**X 620E**	800 Volts C.T. 200 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3 Amps.	6.3 V.C.T. 6 Amps.	2¼x4½x3¾	3¾x3	6½ Lbs.	$6.65	**$3.99**
Y	**Y 620E**	800 Volts C.T. 200 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3 Amps.	6.3 V.C.T. 6 Amps.	4⅝x3¾x3½	3x2½	6¾ Lbs.	7.00	**4.20**
Z	**Z 620E**	800 Volts C.T. 200 Mills.	5 Volts 3 Amps.	6.3 V.C.T. 3 Amps.	6.3 V.C.T. 6 Amps.	2¼x4½x3¾	3¾x3	6 Lbs.	6.50	**3.90**

COMBINATION 6.3 and 2.5 VOLT FILAMENT POWER TRANSFORMERS

Style	**Stock Number**	A.C. Plate Volts	Filament No. 1	Filament No. 2	Filament No. 3	Filament No. 4	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	**Net Price**
X	**X62-70E**	700 Volts C.T. 70 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	6.3 V.C.T. 3 Amps.	——	2x3⅜x2¹⁵⁄₁₆	2¹⁵⁄₁₆x2¼	3½ Lbs.	$3.50	**$2.10**
Y	**Y62-70E**	700 Volts C.T. 70 Mills.	5 Volts 2 Amps.	2.5 V.C.T. 4 Amps.	6.3 V.C.T. 3 Amps.	——	3½x2⅞x3⅛	2¼x2	3¾ Lbs.	3.75	**2.25**
Z	**Z62-70E**	700 Volts C.T. 70 Mills.	5 Volts 2 Amps.	2.5 V.T.C. 4 Amps.	6.3 V.C.T. 3 Amps.	——	2x3⅜x2¹⁵⁄₁₆	2¹⁵⁄₁₆x2¼	3½ Lbs.	3.35	**2.01**
Y	**Y62-25F**	870 Volts C.T. 250 Mills. Bias Tap 80 V	5 Volts 3 Amps.	2.5 V. 3 Amps.	2.5 V.C.T. 10.5 Amps.	6.3 V.C.T. 1.5 Amps.	4⅝x3¾x3⅝	3x2⅝	6¾ Lbs.	10.00	**6.00**

6.3 VOLT POWER TRANSFORMERS WITH MOTOR TUNING WINDING

Style	**Stock Number**	A.C. Plate Volts	Filament No. 1	Filament No. 2	Motor Winding	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	**Net Price**
X	**X 2511**	700 Volts C.T. 120 Mills.	5 Volts C.T. 5 Amps.	6.3 Volts C.T. 5 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	2½x4½x3¾	3x3¾	7 Lbs.	$5.50	**$3.30**
Y	**Y 2515**	700 Volts C.T. 120 Mills.	5 Volts C.T. 5 Amps.	6.3 Volts C.T. 5 Amps.	50 Volts Tapped 7 V. and 24 V.—35 Watts	4⅝x3¾x3¾	3x2¾	7¼ Lbs.	5.75	**3.45**
X	**X 2510**	750 Volts C.T. 150 Mills.	5 Volts C.T. 5 Amps.	6.3 Volts C.T. 5.2 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	2½x4½x3¾	3x3¾	7 Lbs.	6.25	**3.75**
Y	**Y 2514**	750 Volts C.T. 150 Mills.	5 Volts C.T. 5 Amps.	6.3 Volts C.T. 5.2 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	4⅝x3¾x3¾	3x2¾	7¼ Lbs.	6 50	**3.90**
X	**X 2509**	800 Volts C.T. 200 Mills.	5 Volts C.T. 3 Amps.	6.3 Volts C.T. 5.3 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	2⅝x4½x3¾	3x3¾	7¾ Lbs.	8.00	**4.80**
Y	**Y 2516**	800 Volts C.T. 200 Mills.	5 Volts C.T. 3 Amps.	6.3 Volts C.T. 5.3 Amps.	50 Volts Tapped 18 V. and 24 V.—35 Watts	4⅝x3¾x3⅞	3x2⅞	8 Lbs.	8.25	**4.95**

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

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FILTER CHOKES

Style	Stock Number	Mills.	Henries	D.C. Res.	Core Size (In.)	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
D	**4831**	40	5	150	½x½	1⅜x1 11/16x1 3/16	2	7 Oz.	$ .60	**$ .36**
D	**4660**	30–40	7	200	½x 9/16	1⅜x1 11/16x1¼	2	7 Oz.	.60	**.36**
D	**4818**	30–40	8	300	½x 9/16	1⅜x1 11/16x1¼	2	7 Oz.	.70	**.42**
D	**4661**	30–40	10	400	½x 9/16	1⅜x1 11/16x1¼	2	7 Oz.	.60	**.36**
D	**4815**	30–40	12	500	½x 9/16	1⅜x1 11/16x1¼	2	7 Oz.	.70	**.42**
D	**4662**	30–40	10	200	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	10 Oz.	.85	**.51**
D	**4663**	30–40	15	400	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	10 Oz.	.85	**.51**
D	**4664**	30–40	18	500	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	10 Oz.	.85	**.51**
D	**4665**	75	15	200	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	1.40	**.84**
D	**4001**	50	23	400	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	1.40	**.84**
D	**4027**	50	30	550	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	1.40	**.84**
D	**4816**	40	40	800	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	1.40	**.84**
D	**4666**	100	15	160	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1¾ Lbs.	1.65	**.99**
D *	**4002**	75	30	340	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1¾ Lbs.	1.65	**.99**
D	**4667**	175	10	100	1x1	2½x3 1/16x2⅛	3 9/16	2½ Lbs.	2.10	**1.26**
D *	**4003**	110	30	235	1x1	2½x3 1/16x2⅛	3 9/16	2½ Lbs.	2.10	**1.26**
E †	**4668**	200	10	120	1⅛x1⅛	3⅜x2 13/16x2½	2¼x2⅛	3¼ Lbs.	3.25	**1.95**
E †	**4008**	250	12	125	1¼x1¼	3¾x3¼x2¾	2½x2¼	4½ Lbs.	4.00	**2.40**
E †	**4669**	300	10	80	1½x1½	4½x3¾x3½	3 x2½	7½ Lbs.	5.25	**3.15**

* Lug Terminals. † Vertical Angle Bracket Mounting and Lug Terminals.

AUDIO REACTORS

Style	Stock No.	Mills.	Henries	D. C. Resistance	Core Size (Inches)	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
D*	**4830**	10	150	3,500	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	$2.00	**$1.20**
D	**4824**	10	300	6,000	¾x¾	1⅞x2 5/16x1⅝	2 3/16	1 Lb.	1.85	**1.11**
Y	**4825**	10	1000	10,000	1x1	3⅜x2½x2⅝	2x1¾	2¾ Lbs.	4.50	**2.70**

*Center Tapped

INPUT AUDIO TRANSFORMERS — SINGLE PLATE TO PUSH PULL GRIDS

Style	Stock Number	Ratio	Core Size (In.)	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
D	**8301**	3 - 1	½x 9/16	1⅜x1 11/16x1¼	2	7 Oz.	$1.35	**$0.81**
D	**8305**	3 - 1	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	10 Oz.	1.60	**.96**
D	**8311**	3 - 1	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	1.95	**1.17**
D	**8319**	3 - 1	1x1	2½x3 1/16x2⅛	3 9/16	2¼ Lbs.	2.90	**1.74**

INPUT AUDIO TRANSFORMERS — SINGLE PLATE TO SINGLE GRID

Style	Stock Number	Ratio	Core Size (In.)	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
D	**8300**	3 - 1	½x 9/16	1⅜x1 11/16x1¼	2	7 Oz.	$1.30	**$0.78**
D	**8304**	3 - 1	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	10 Oz.	1.35	**.81**
D	**8310**	3 - 1	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	1.95	**1.17**
D	**8316**	4 - 1	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1½ Lbs.	2.60	**1.56**

FILAMENT TRANSFORMERS

Style	Stock Number	Filament	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
D	**2467**	2.5 Volts C.T. 5 Amps.	2¼x2 11/16x1⅞	3⅛	1½ Lbs.	$1.25	**$0.75**
D*	**2468**	5 Volts C.T. 4 Amps.	2⅝x3x1⅞	2⅜x1 7/16	2 Lbs.	1.65	**.99**
D*	**2466**	6.3 Volts C.T. 5 Amps.	2⅝x3x2	2⅜x1 9/16	2⅛ Lbs.	1.75	**1.05**
D	**2471**	6.3 Volts Tapped 2.5 V. and 5 V. All at 2.5 Amps.	2¼x2½x1⅞	3⅛	1½ Lbs.	1.95	**1.17**

*Similar to Style D—Horizontal Mounting Angle Frame

6 VOLT VIBRATOR TRANSFORMERS

Style	Stock Number	D.C. Volts To Filter	M.A.	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
D*	**2482**	150	35	2¼x2 11/16x1 15/16	3⅛	1¾ Lbs.	$2.15	**$1.29**
D*	**2459**	225	40	2¼x2 11/16x1 15/16	3⅛	1¾ Lbs.	2.25	**1.35**
Y	**2460**	250	50	3⅛x2½x2⅝	2x1¾	2¾ Lbs.	2.75	**1.65**
Y	**2461**	275	75	3⅛x2½x2⅝	2x1¾	2¾ Lbs.	3.25	**1.95**

*Same as style D except fully encased

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

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SPECIAL AUDIO AND DRIVER INPUT TRANSFORMERS — SINGLE AND PUSH PULL

Style	Stock Number	Description		Core Size In.	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
		Driver Tube	Output Tube						
D	**8748**	1-30	1-19, 1-1J6G, 2-30	½x9/16	1⅜x1 11/16x1¼	2	7 Oz.	$1.50	**$0.90**
D	**8329**	1-30	1-19, 1-1J6G, 2-30	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	1.90	**1.14**
D	**8323**	1-56, 76, 6C5	2-2A3, 2-6A3	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	2.90	**1.74**
D	**8328**	1-56, 76, 6C5	2-45	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1½ Lbs.	3.50	**2.10**
D	**8324**	2-56, 76, 6C5	2-2A3, 2-6A3	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1½ Lbs.	3.50	**2.10**
D	**8326**	1-2A5, 42, 6F6 Triode	2-2A5, 2-42 Fixed Bias	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1½ Lbs.	3.50	**2.10**
D	**8327**	1-2A5, 42, 6F6 Triode	2-2A5, 2-42 Self Bias	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1½ Lbs.	3.50	**2.10**
D	**8325**	1-45, 2A5, 42	PAR or PP 2A3	1x1	2½x3 1/16x2⅛	3 9/16	2¼ Lbs.	4.10	**2.46**
D	**8321**	Single Plate 35 Mills.	Push Pull Class "A"	¾x¾	1⅞x2 5/16x1⅝	2 13/16	1 Lb.	2.90	**1.74**
D	**8322**	Push Pull Plates 35 Mills.	Push Pull Class "A"	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1½ Lbs.	3.50	**2.10**

UNIVERSAL OUTPUT TRANSFORMERS

Style	Stock Number	Description		Nominal Wattage	Core Size (In.)	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
		Primary	Secondary							
D	**8775**	Universal—any tube combination	Any voice coil	4	½x⅝	1⅜x1 11/16x1¼	2	7 Oz.	$1.50	**$0.90**
D	**7364**	" "	Any voice coil	8	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	¾ Lb.	1.90	**1.14**
E	**5999***	" "	Any voice coil	12	¾x¾	2 5/16x1 15/16x1½	2⅜	1¼ Lbs.	2.00	**1.20**
D	**7390**	" "	Any voice coil	18	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1¾ Lbs.	2.60	**1.56**
E	**8777**	Universal—any tube combination or 500 Ohm line	Any voice coil	12	¾x¾	2 5/16x1 15/16x1½	2⅜	1¼ Lbs.	3.00	**1.80**
D	**8776**	" "	Any voice coil	18	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1¾ Lbs.	3.00	**1.80**
E	**8332**	Heavy Duty Push-Pull	4-6-8-10-16 Ohms	26	1x1	3 1/16x2½x2	3⅛	2¼ Lbs.	4.00	**2.40**
E	**8331**	Heavy Duty Push-Pull	250-500 Ohms	26	1x1	3 1/16x2½x2	3⅛	2¼ Lbs.	4.00	**2.40**
D	**8779**	Heavy Duty Push-Pull	500-1000-1500-2000 Ohms	26	1x1	2½x3 1/16x2⅛	3 9/16	2¼ Lbs.	4.00	**2.40**
E	**8335**	Heavy Duty Push-Pull Class "B"	250-500 Ohms	26	1x1	3 1/16x2½x2	3⅛	2¼ Lbs.	4.00	**2.40**
D	**8755**	Universal Line 500-1000-1500-2000 Ohms	5 Ohms	4	½x9/16	1⅜x1 11/16x1¼	2	7 Oz.	1.50	**.90**
D	**8747**	" "	6 Ohms	8	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	¾ Lb.	1.50	**.90**
D	**8746**	" "	8 Ohms	8	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	¾ Lb.	1.50	**.90**
E	**8749**	" "	6-8 Ohms	12	¾x¾	2 5/16x1 15/16x1½	2⅜	1¼ Lbs.	2.00	**1.70**
D	**8750**	" "	8 Ohms	18	⅞x⅞	2¼x2 11/16x1⅞	3⅛	1¾ Lbs.	2.60	**1.56**
E	**8752**	" "	8 Ohms	18	⅞x⅞	2 11/16x2¼x1⅞	2 15/16	1¾ Lbs.	2.60	**1.56**
E	**8753**	" "	8 Ohms	26	1x1	3 1/16x2½x2	3⅛	2¼ Lbs.	3.15	**1.89**
D	**8871**	Universal Line	Any voice coil	8	⅝x⅝	1⅝x1 15/16x1⅜	2⅜	¾ Lbs.	2.25	**1.35**
E	**8513**	Universal Line	Any voice coil	12	¾x¾	2 5/16x1 15/16x1½	2⅜	1¼ Lbs.	2.60	**1.56**
E	**8514**	Universal Line	Any voice coil	18	⅞x⅞	2 11/16x2¼x1⅞	2 15/16	1¾ Lbs.	3.15	**1.89**

*Number 5999 Available also for Horizontal Mounting—List Price $2.00—**Net Price $1.20**

MICROPHONE, LINE TO GRID AND PICKUP TRANSFORMERS

Style	Stock Number	Description	Core Size (Inches)	Dimensions (In.) A B C	Mounting Centers (In.)	Shipping Weight	List Price	Net Price
D	**8865**	S. B. Microphone to Single Grid—200 or 70 Ohms at 25 Ma.	½x½	1⅜x1 11/16x1⅛	2	6 Oz.	$1.00	**$0.60**
D	**8864**	S. B. Microphone to Single Grid—100 Ohms to 60,000 Ohms	½x⅝	1⅜x1 11/16x1¼	2	7 Oz.	1.20	**.72**
E	**8863**	D. B. Microphone to Single Grid—200 Ohms to 57,000 Ohms	⅝x⅝	1⅞x1⅝x1⅜	2	¾ Lb.	1.75	**1.05**
Y	**8862**	D. B. Microphone to Single Grid—200 Ohms to 100,000 Ohms	¾x¾	2⅜x2 x2	1 9/16x1⅜	1¼ Lbs.	2.75	**1.65**
Y	**8861**	D. B. Microphone or Low Imped. Pickup to Single Grid—200 & 500 Ohms C T. to 150,000 Ohms	1x1	3⅛x2½x2⅝	2x1¾	2¾ Lbs.	4.00	**2.40**
Y	**8860**	Low Imped. Pickup or Dynamic Microphone to Sgle. Grid—4, 8. 15 & 30 Ohms to 200,000 Ohms	¾x1	2⅜x2x2¼	1 9/16x1⅜	1½ Lbs.	2.75	**1.65**
Y	**8859**	D. B. Microphone and 200 Ohm Line to P. P. Grids 200 Ohm C.T. to 100,000 Ohms	¾x¾	2⅜x2x2	1 9/16x1⅜	1¼ Lbs.	2.00	**1.20**

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

STANCOR REPLACEMENT TRANSFORMERS

THE ONLY 100% COMPLETE TRANSFORMER SERVICE

POWER TRANSFORMERS — NEW UNIVERSAL TYPE

These units will service the majority of radios in use today. Four black-enameled brackets furnished with each transformer to permit choice of five mounting positions—horizontal, vertical four hole half-shell, two hole half shell or Underwriter's type. Electro-statically shielded—R.M.A. color coded flexible leads.

Universal Type — 2.5 Volt

Stancor Number	No. of Tubes	Plate V.C.T.	Plate Ma.	Fil. No. 1 V	Fil. No. 1 Ma.	Fil. No. 2 V	Fil. No. 2 Ma.	Fil No. 3 V	Fil No. 3 Ma.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	Lbs. Wgt.	List Price
P-6001	4-5	650	40	5.0-C.T.	2.0	2.5-C.T.	4.0	.....	....	M	2½"x3"	2" x2½"	3.3	**$3.70**
P-6002	5-6	700	50	5.0-C.T.	2.0	2.5-C.T.	7.25	.....	....	M	2½"x3"	2" x2½"	3.3	**4.75**
P-6009	6-7	550	70	5.0-C.T.	3.0	5.0-C.T.	0.5	2.5-C.T.	10.5	M	2 13/16"x3⅜"	2¼"x2 13/16"	4.2	**5.45**
P-6005	6-7	700	70	5.0-C.T.	3.0	2.5-C.T.	9.0	2.5-C.T.	3.5	M	2 13/16"x3⅜"	2¼"x2 13/16"	5.4	**5.45**
P-6003	6-7	700	70	5.0-C.T.	3.0	2.5-C.T.	9.0	.....	....	M	2 13/16"x3⅜"	2¼"x2 13/16"	3.8	**4.95**
P-6004	8-9	700	90	5.0-C.T.	3.0	2.5-C.T.	12.5	.....	....	M	3⅛"x3¾"	2½"x3⅛"	5.4	**5.80**
P-6007	10-12	800	110	5.0-C.T.	3.0	2.5-C.T.	15.0	2.5-C.T.	3.5	M	3⅛"x3¾"	2½"x3⅛"	6.3	**7.45**
P-6006	11-13	700	120	5.0-C.T.	3.0	2.5-C.T.	12.5	2.5-C.T.	3.5	M	3⅛"x3¾"	2½"x3⅛"	5.9	**7.15**

Universal Type — 6.3 Volt

Stancor Number	No. of Tubes	Plate V.C.T.	Plate Ma.	Fil. No. 1 V	Fil. No. 1 Ma.	Fil. No. 2 V	Fil. No. 2 Ma.	Fil No. 3 V	Fil No. 3 Ma.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	Lbs. Wgt.	List Price
P-6289	5-6	420	40	5.0-C.T.	2.0	6.3-C.T.	2.0	.....	....	M	2½"x3"	2" x2½"	3.1	**$3.70**
P-6297	4-5	480	40	5.0-C.T.	2.0	6.3-C.T.	2.0	.....	....	M	2½"x3"	2" x2½"	3.2	**3.70**
P-6010	4-5	650	40	5.0-C.T.	3.0	6.3-C.T.	2.0	.....	....	M	2½"x3"	2" x2½"	3.3	**3.70**
P-6119	6-7	600	55	5.0-C.T.	2.0	6.3-C.T.	2.7	.....	....	M	2½"x3"	2" x2½"	3.5	**3.75**
P-6120	7-9	630	70	5.0-C.T.	3.0	6.3-C.T.	3.5	.....	....	M	2 13/16"x3⅜"	2¼"x2 13/16"	5.2	**5.00**
P-6011	6-7	700	70	5.0-C.T.	3.0	6.3-C.T.	2.5	.....	....	M	2½"x3"	2" x2½"	3.3	**4.75**
P-6312	7-8	580	90	5.0-C.T.	3.0	6.3-C.T.	2.8	.....	....	M	3⅜"x2 13/16"	2 13/16"x2¼"	5.4	**5.70**
P-6012	8-9	700	90	5.0-C.T.	3.0	6.3-C.T.	3.5	.....	....	M	2 13/16"x3⅜"	2¼"x2 13/16"	5.2	**5.35**
P-6013	11-13	700	120	5.0-C.T.	3.0	6.3-C.T.	4.7	.....	....	M	3⅛"x3¾"	2½"x3⅛"	5.3	**5.90**
P-6313	11-13	580	125	5.0-C.T.	3.0	6.3-C.T	4.5	.....	....	M	4⅛"x3 7/16"	3 7/16"x2¾"	6.4	**6.30**
P-6014	13-15	750	150	5.0-C.T.	3.0	6.3-C.T.	5.0	.....	....	M	3⅛"x3¾"	2½"x3⅛"	5.8	**7.75**
P-6165	14-16	800	200	5.0-C.T.	4.0	6.3-C.T.	5.5	.....	....	M	3¾"x4½"	3" x3¾"	6.5	**8.95**
P-6314	14-16	700	200	5.0-C.T.	3.0	6.3-C.T.	5.5	.....	....	M	4½"x3¾"	3¾"x3"	7.7	**8.80**
P-6315	16-18	740	275	5.0-C.T.	3.0	6.3-C.T.	7.0	.....	....	M	4½"x3¾"	3¾"x3"	8.5	**12.00**

Universal Type — 6.3 and 2.5 Volt Combination

Stancor Number	No. of Tubes	Plate V.C.T.	Plate Ma.	Fil. No. 1 V	Fil. No. 1 Ma.	Fil. No. 2 V	Fil. No. 2 Ma.	Fil No. 3 V	Fil No. 3 Ma.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	Lbs. Wgt.	List Price
P-6293	6-7	600	60	5.0-C.T.	3.0	6.3-C.T.	2.5	2.5-C.T.	7.5	M	2 13/16"x3⅜"	2¼"x2 13/16"	4.0	**$5.35**
P-6294	8-9	750	85	5.0-C.T.	3.0	2.5-C.T.	9.0	6.3-5.0, 2.5-C.T.	3.5	M	2 13/16"x3⅜"	2¼"x2 13/16"	4.0	**6.25**
P-6295	8-9	700	90	5.0-C.T.	3.0	6.3, 2.5 C.T.	3.5	2.5-C.T.	9.0	M	3⅛"x3¾"	2½"x3⅛"	5.7	**6.25**
P-6234 Has an additional 2.5 V. at 1.75 A.C.T. winding.	11-13	660	90	5.0-C.T.	3.0	2.5-C.T.	12.0	6.3, 5.0, 2.5-C.T.	4.0	M	3⅛"x3¾"	2½"x3⅛"	5.9	**8.15**
P-6008	14-16	750	180	5.0-C.T.	3.0	6.3-C.T.	3.3	2.5-C.T.	6.0	M	3 7/16"x4⅛"	2¾"x3 7/16"	6.5	**8.35**

UNIVERSAL POWER TRANSFORMERS With Motor Tuning Windings

Stancor Number	No. of Tubes	Plate V.C.T.	Plate Ma.	Fil. No. 1 V	Fil. No. 1 Ma.	Fil. No. 2 V	Fil. No. 2 Ma.	Fil No. 3 V	Fil No. 3 Ma.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	Lbs. Wgt.	List Price
P-6290	11-13	700	120	5.0-C.T.	3.0	6.3	4.7	50-24-18		M	3¾"x3⅛"	3⅛"x2½"	5.4	**$7.20**
P-6291	13-15	750	150	5.0-C.T.	3.0	6.3	5	50-24-18		M	3¾"x3⅛"	3⅛"x2½"	5.9	**8.15**
P-6292		800	200	5.0-C.T.	3.0	6.3	5.2	50-24-18		M	4½"x3¾"	3¾"x3"	7.8	**10.50**

Underwriters' type mounting studs, tapped to fit the bolts on these transformers. Catalog No. 2053. List price $0.25 per set.

HALF SHELL TRANSFORMERS

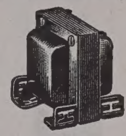
Half Shell With Lugs—2.5 Volts

Stancor No.	No. of Tubes	Plate V.C.T.	Plate Ma.	Filament 1 V.	Filament 1 A.	Filament 2 V.	Filament 2 A.	Filament 3 V.	Filament 3 A.	Mounting Type	Mounting Area	Mtg. Centers	Wgt. in Carton	List Price
P-2750	4	650	40	5.0	2.0	2.5-C.T.	3.75	....	....	G	2½"x3"	2" x2½"	2.2	**$3.00**
P-2770	4-5	650	40	5.0	2.0	2.5-C.T.	4.5	....	....	G	2½"x3"	2" x2½"	2.5	**3.70**
P-2868	4-5	650	40	5.0	2.0	2.5-C.T.	1.75	2.5	3.5	G	2½"x3"	2" x2½"	2.5	**3.95**
P-2869	5-6	700	50	5.0	2.0	2.5-C.T.	1.75	2.5	5.25	G	2 13/16"x3⅜"	2¼"x2 13/16"	3.0	**4.30**
P-2859	6-7	700	70	5.0	3.0	2.5-C.T.	3.5	2.5	7.5	G	3⅛"x3¾"	2½"x3⅛"	3.6	**5.15**
P-2860	8-9	700	90	5.0	3.0	2.5-C.T.	3.5	2.5	9.0	G	3 7/16"x4⅛"	2¾"x3 7/16"	5.2	**5.45**

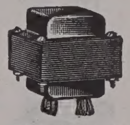
Half Shell With Lugs—6.3 Volts

Stancor No.	No. of Tubes	Plate V.C.T.	Plate Ma.	Filament 1 V.	Filament 1 A.	Filament 2 V.	Filament 2 A.	Filament 3 V.	Filament 3 A.	Mounting Type	Mounting Area	Mtg. Centers	Wgt. in Carton	List Price
P-2751	4	650	40	5.0	2.0	6.3-C.T.	1.6	....	....	G	2½"x3"	2" x2½"	2.2	**$3.25**
P-2771	4-5	650	40	5.0	2.0	6.3-C.T.	2.0	....	....	G	2½"x3"	2" x2½"	2.5	**3.50**
P-947	4-5	700	50	5.0	2.0	6.3-C.T.	2.0	....	....	G	2 13/16"x3⅜"	2¼"x2 13/16"	3.3	**4.15**
P-948	5-6	675	70	5.0	3.0	6.3-C.T.	2.5	....	....	G	3⅛"x3¾"	2½"x3⅛"	4.7	**5.45**
P-949	7-10	700	120	5.0	3.0	6.3-C.T.	3.0	....	....	G	3 7/16"x4⅛"	2¾"x3 7/16"	5.5	**6.25**
P-6335	6-8	700	120	5.0	3.0	6.3-C.T.	3.0	....	....	G	2⅞"x3⅜"	2¼"x2⅞"	4.2	**6.20**
P-6336	6-8	600	150	5.0	3.0	6.3-C.T.	3.0	....	....	G	2⅞"x3⅜"	2¼"x2⅞"	4.2	**5.90**
P-955	11-14	800	160	5.0	3.0	6.3-C.T.	4.5	....	....	G	3¾"x4½"	3" x3¾"	6.5	**8.15**

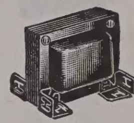
All of the above transformers are for operation on 115 volts, 50-60 cycles.
Other voltage and frequency combinations available on special order. Write for quotations.



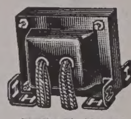
TYPE "M"
Mounted
Vertically



TYPE "M"
Mounted
Half Shell

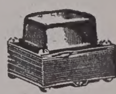


TYPE "M"
Mounted
Horizontally

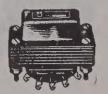


TYPE "M"

TYPE "M"
May Also Be
Mounted
Underwriters



TYPE "M"
Two Hole
Mounting



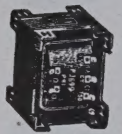
TYPE "G"

Write for Your
Free Stancor
Service Guide

STANCOR REPLACEMENT TRANSFORMERS

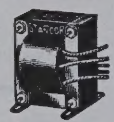
THE ONLY 100% COMPLETE TRANSFORMER SERVICE

TYPE "C"



TYPE "H"

TYPE "S"



TYPE 'N"

TYPE "KA"

TYPE "D"

POWER TRANSFORMERS (Fully Cased)

Stancor Number	No. of Tubes	Plate V.C.T.	Plate Ma.	Fil. No. 1 V.C.T.	Fil. No. 1 Ma.	Fil. No. 2 V.C.T.	Fil. No. 2 Ma.	Fil No. 3 V.C.T.	Fil No. 3 Ma.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	Lbs. Wgt.	List Price

Fully Shielded With Leads — 2.5 Volts

P-4042	6-7	700	70	5.0	3.0	2.5-C.T.	3.5	2.5	7.5	C	3¼"x3"	2½"x1⅞"	3.7	**$6.25**
P-4043	8-9	700	90	5.0	3.0	2.5-C.T.	3.5	2.5	9.0	C	3⁹⁄₁₆"x3⅜"	2¹¹⁄₁₆"x2½"	4.5	**7.20**
P-4044	10-12	700	110	5.0	3.0	2.5-C.T.	3.5	2.5	14.0	C	3½"x3⅝"	2¹¹⁄₁₆"x2½"	4.7	**8.40**

Fully Shielded With Leads — 6.3 Volts

P-4076	4-5	650	40	5.0	2.0	6.3-C.T.	2.0	......	...	C	2½"x2½"	2³⁄₁₆"x1¾"	2.7	**$4.80**
P-4077	5-6	700	50	5.0	2.0	6.3-C.T.	2.6	......	...	C	3" x2¾"	2¼"x1⅞"	3.2	**5.20**
P-4078	6-7	700	70	5.0	3.0	6.3-C.T.	3.0	......	...	C	3¼"x3"	2½"x1⅞"	4.0	**6.20**
P-4079	8-9	700	90	5.0	3.0	6.3-C.T.	3.5	......	...	C	3⁹⁄₁₆"x3⅜"	2¾"x2¼"	4.9	**6.85**
P-4080	10-12	700	110	5.0	3.0	6.3-C.T.	4.5	......	...	C	3⅞"x3⅜"	3" x2¼"	5.4	**7.50**
P-6143	8-9	880	130	5.0	3.0	6.3-C.T.	3.5	......	...	C	3⅝"x4"	2¾"x3"	5.0	**8.75**
P-4081	11-14	800	160	5.0	3.0	6.3-C.T.	4.5	......	...	C	3⅞"x3⅛"	3" x2½"	5.0	**8.95**
P-4004*	11-14	800	175	5.0	3.0	6.3-C.T.	2.5	6.3-C.T.	2.5	C	3⅞"x4⅛"	3" x2¾"	11.0	**10.70**
P-5059	11-14	675	200	5.0	3.0	6.3-C.T.	5.0	......	...	C	3⅞"x4⅜"	3" x3⁵⁄₁₆"	10.0	**10.25**
P-6170	....	1200	200	5.0	3.0	6.3-C.T.	3.0	6.3-C.T.	4.0	C	3⅞"x4⅜"	3" x3⁵⁄₁₆"	13.3	**10.00**

Fully Shielded With Leads — 2.5 and 6.3 or 7.5 Volt Combination

P-4045	4-5	600	40	5.0	2.0	2.5-C.T.	5.25	6.3	2.0	C	2⅝"x2⅝"	2¼"x1¾"	2.7	**$4.70**
P-4046	5-6	700	50	5.0	2.0	2.5-C.T.	7.25	6.3	2.6	C	3" x3"	2¼"x2"	3.2	**5.45**
P-4047	6-7	700	70	5.0	3.0	2.5-C.T.	9.0	6.3	3.0	C	3¼"x3"	2½"x1⅞"	3.7	**6.40**
P-4048	8-9	700	90	5.0	3.0	2.5-C.T.	10.0	6.3	3.5	C	3⁹⁄₁₆"x3½"	2¾"x2⅝"	5.0	**6.95**
P-4049	10-12	700	110	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3⅞"x3⅜"	3" x2⅜"	5.3	**7.85**
P-3005†	10-12	720	125	5.0	3.0	2.5-C.T.	10.0	6.3-C.T.	4.0	C	3⅞"x3⅞"	3" x2¾"	5.5	**7.50**
P-4050*	11-14	800	160	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3⅞"x3¾"	3" x2¾"	6.2	**9.00**
P-6169	....	1200	200	5.0	3.0	2.5-C.T.	10.0	7.5-C.T.	3.0	C	3⅞"x4⅛"	3" x3¹⁄₁₆"	12.0	**10.00**

Universal 1.5; 2.5; 5 and 7.5 Volt Combination Transformers

Stancor Number	Plate V.C.T.	Plate Ma.	Rectifier Filament V.	Rectifier Filament A.	Filament No. 1 V.	Filament No. 1 A.	Filament No. 2 V.	Filament No. 2 A.	Mounting Type	Mounting Area	Mtg. Centers	Wght. in Carton	List Price
P-1501	600	60	5.0	3.0	1.5-C.T. 2.5-C.T.	1.0 4.0	1.5 5.0	4 0.5	C	3½"x3⅜"	2½"x2½"	5.0	**$7.50**
P-1503	700	120	5.0	3.0	1.5-C.T. 2.5-C.T.	1.0 4.0	1.5 2.5-C.T.	5 3.5	C	4" x3¾"	3⅛"x3⅛"	7.5	**7.75**
P-1505	700	120	5.0	3.0	2.5-C.T. 2.5-C.T.	4.0 3.5	2.5-C.T.	9	C	4" x3¾"	3" x3"	7.5	**7.85**

SIX VOLT UNIVERSAL VIBRATOR TRANSFORMERS

These units equipped with mounting brackets for universal replacement work.

Stancor Number	Secondary D.C. Volts to Filter	Secondary Ma.	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price
P-6301	150	40	S	2¼"	1⅞"	2"	1.3	**$3.30**
P-4060	225	40	N	3⅛"	2½"	3"	2.2	**3.50**
P-4061	250	50	N	3⅛"	2½"	3"	2.3	**3.80**
P-4062	260	65	N	3⅛"	2½"	3"	2.6	**4.40**
P-4063	285	75	N	3⅛"	2½"	3¼"	3.0	**5.00**
P-6131	330	100	N	3½"	2¹⁵⁄₁₆"	3¼"	3.5	**5.45**

SIX VOLT D.C. OR 115 VOLT A.C. VIBRATOR TRANSFORMER

P-6166	350 Fil. 6.3 V.C.T.	135 2.25 A.	C	4⅝"	3⅞"	4"	9.0	**$8.50**

SPEAKER FIELD SUPPLY TRANSFORMERS

Stancor Number	Primary Voltage	Secondary D.C. Volts	Secondary Ma. Output	Filament Winding	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price
P-6149	115	100	150	5 V @ 3 A	C	3½"	2¹⁵⁄₁₆"	3¼"	3.2	**$5.00**
P-6146	115	115	Up to 250	5 V @ 3 A	C	4"	3⁷⁄₃₂"	3¼"	5.0	**5.90**
P-6147	115	300	Up to 200	5 V @ 3 A	C	4⅜"	3⁹⁄₁₆"	3¾"	7.5	**8.00**

*Has 80 V. bias tap and extra 2.5 V. 1.75A filament. †Has 80 V. bias tap and extra 5 V. 2A filament.
All of the above power transformers are for operation on 115 volts, 50-60 cycles.
Other voltage and frequency combinations available on special order. Write for quotations.

OUTPUT TRANSFORMERS

UNIVERSAL OUTPUT TRANSFORMERS

Stancor Number	Output Tubes	Impedance		D.C. Pri. M.A.	Max. Audio Watts	Type Mounting	Dimensions			Weight in Carton	List Price
		Primary	Sec.				H	W	D		
A-3856	Single or P.P. Plates	4,000 7,000 8,000, 10,000, 14,000 C.T.	1 to 30	35	4	Q	1 5/16″	2⅜″	1 1/16″	0.6	**$1.85**
A-3849	Universal Single Plate	1,500, 2,000, 4,000, 5,000, 7,000, 10,000	1 to 30	55	10	Q	1⅝″	2 13/16″	1⅝″	0.7	**1.85**
A-3823	Single or P.P. Plates	4;000, 7,000, 8,000 10,000, 14,000 C.T.	1 to 30	40	8	Q	1⅝″	2 13/16″	1⅝″	0.7	**1.85**
A-3850	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	40	8	J	2″	2⅜″	1⅝″	0.7	**1.85**
A-3852	Single or P.P. Plates	4,000, 7,000, 8,000 10,000, 14,000 C.T.	1 to 30	40	18	J	2¼″	2¾″	2¼″	1.6	**2.40**
A-3870	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	50	18	Q	2″	3 5/16″	2¼″	1.6	**2.40**
A-3880	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	40	15	Q	2¼″	3⅝″	2¼″	1.7	**3.50**
A-3830	Single or P.P. Plates	3,000, 5,000, 6,600, 7,000, 8,000, 10,000 C.T.	1 to 30	60	20	Q	2⅝″	4 1/16″	2¼″	3.0	**3.50**
A-3890	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	50	15	E	2¼″	2¾″	2⅛″	1.3	**3.90**
A-2855	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	1 to 30	50	15	L	2″	2 5/16″	2 1/16″	1.3	**2.25**
A-3841	Universal Single Plate	2,500, 4,000, 5,000, 6,000, 7,000	500	60	10	J	2 11/16″	2 11/16″	2⅜″	1.8	**4.70**
A-3842	Universal P.P. Plates	8000, 10,000, 12,000 14,000 C.T.	500	55	10	J	2 11/16″	2 11/16″	2⅜″	1.8	**4.70**

CRYSTAL RECORDER OUTPUT TRANSFORMERS

The first four units were designed especially for use in radio receivers either for conversion or replacement purposes. Separate transformers are available for either single or push-pull output stages and for simultaneous monitoring while cutting record.

The last three units have high fidelity type construction and are for use with amplifiers designed expressly for recording work. All transformers are conservatively designed to have the best electrical characteristics consistent with their size.

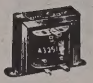
Stancor Number	Output Tubes	Impedance in Ohms		Core Size	Max. Watts Level	Type Mtg.	Dimensions			Mtg. Ctrs.	Wgt. Ctn.	List Price
		Primary	Secondary				H	W	D			
A-3853	SGL. 2A5, 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	7,000	70,000 or 4-6	¾″x¾″	5	A	1⅞″	3 5/16″	1⅞″	2 13/16″	1.0	**$2.40**
A-3854	SGL. 2A5, 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	7,000	70,000 and 4-6	⅞″x⅞″	10	A	2¼″	3⅝″	2⅛″	3⅛″	1.5	**3.30**
A-3859	P.P. 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	10,000	70,000 or 4-6	¾″x¾″	5	A	1⅞″	3 5/16″	1⅞″	2 13/16″	1.0	**2.40**
A-3860	P.P. 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	10,000	70,000 and 4-6	⅞″x⅞″	10	A	2¼″	3⅝″	2⅛″	3⅛″	1.5	**3.30**
A-3869	P.P. 2A3, 6A3, 6L6 (C1. A1)	3,000-5,000	70,000	⅞″x⅞″	10	W2	3½″	2¾″	3 1/16″	...	3.0	**12.00**
A-3886	P.P. 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	10,000	70,000	⅞»x⅞″	10	W2	3½″	2¾″	3 1/16″	...	3.0	**12.00**
A-3897	500 Ohm Line	500	70,000	⅞»x⅞″	10	W2	3½″	2¾″	3 1/16″	...	3.0	**12.00**

TUBE TO LINE TRANSFORMERS (UNIVERSAL)

Stancor Number	From	To	Impedance		D.C. Pri.	Type Mounting	Dimensions			Weight in Carton	List Price
			Pri.	Sec.			H	W	D		
A-3250	Sgl. or P.P. 27, 30, 12A, 37, 55, 56, 76, 6C5, 6C6.	Line	10,000 or 20,000	50, 125, 200, 333, 500	10	Q	2″	3 5/16″	1⅝″	1.2	**$2.80**
A-3315	Sgl. or PP. 27, 30, 37, 55, 56, 76, 12A, 6C5, 6C6.	Line	10,000 or 20,000	50, 125, 200, 333, 500	35	D	3⅛″	2⅝″	3⅛″	2.6	**5.65**
A-4770	Univ. Single Tube	Line	2,500, 4,500, 5,000, 6,000, 7,000	500	60	J	3⅛″	2⅝″	2⅝″	2.3	**4.40**
A-4771	Univ. P.P. Tubes	Line	8,000, 10,000, 12,000 14,000, C.T.	500	55	J	3⅛″	2⅝″	2⅝″	2.3	**4.75**

MICROPHONE OR LINE TO LINE TRANSFORMER

A-4350	Sgl. or D.B. microphone	Line	50, 125, 200, 333, 500	50, 125, 200, 333, 500	150	Q	2″	3 5/16″	1⅝″	1.0	**$3.50**
A-4407	Sgl. or D.B. Microphone	Line	50, 125, 200, 333, 500	50, 125, 200, 333, 500	150	E	2⅜″	2¾″	2⅛″	2.6	**5.80**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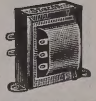
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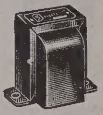
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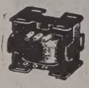
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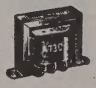
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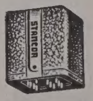
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OUTPUT TRANSFORMERS

OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

TYPE "Q"

TYPE "A"

TYPE "E"

YPE "C"

TYPE "B"

TYPE "D"

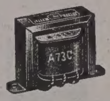
Stancor Number	Output Tubes	Class	Impedance in Ohms		D.C. Pri. Ma.	Max. Audio Watts	Type Mounting	Dimensions			Wt. in Carton	List Price
			Primary	Secondary				H	W	D		
A-3865	SGL, 48, 25B6, 25L6, 50L6	A	1,500	2, 4, 6	55	5	A	1 3/8"	2 3/8"	1 1/2"	0.5	**$1.55**
A-3876	SGL, 2A3, 6A3, 6B4, 6W6, 6Y6, 25-AC5, 25B5, 25B6, 5L6, 35A5, 35L6, 50L6	A	2,000	4	60	5	A	1 5/16"	2 3/8"	1 1/16"	0.5	**1.15**
A-3825	SGL, 2A3, 6A3, 6B4, 6L6, 6Y6, 25AC5, 25B5, 25L6,, 25N6, 35N6, 35L6, 50L6, 6W6	A	2,500	1, 2, 4	75	8	Q	1 7/8"	3 1/4"	1 3/4"	1.0	**2.00**
A-3306	P.P. PAR. 48, 25L6 P.P. PAR. 2A3, 45	A AB	2,500	4, 8, 15, 500	100	25	C	3 1/2"	2 15/16"	3 1/8"	3.6	**7.50**
A-3301	P.P. 2A3, 6A3, 6B4 P.P. 48, 25L6	AB A	3,000	4, 8, 15, 500	55	30	C	3 1/2"	2 15/16"	3 1/8"	3.7	**5.00**
A-3802	P.P. PAR. 6L6 P.P. 45, 6L6	AB1 AB2	3,300 3,800	4, 8, 250, 500	250	75	C	4 5/8"	3 7/8"	3 7/8"	8.3	**8.50**
A-2203	SGL, 12A5, 25A6, 31, 43, 45, 71, 48	A	4,000	8	40	5	A	1 5/8"	2 3/4"	1 5/8"	0.7	**1.55**
A-5528	P.P. 6Y6, 25L6	A	4,000	4, 8, 15, 500	65	8	C	3 1/8"	2 5/8"	2 3/8"	2.4	**4.20**
A-3851	P.P. 6L6*	AB1	4,400	4, 8, 15, 250, 500	70	30	C	3 1/2"	2 15/16"	3 1/8"	3.6	**6.00**
A-3877	SGL, 2B6, 6V6, 7C5, 12A, 25A6, 31, 43, 59	A	5,000	4	40	5	A	1 5/16"	2 3/8"	1 1/16"	0.5	**1.15**
A-3872	P.P. 6L6 P.P. 2A3, 6A3, 45	A AB	5,000	4, 8	150	18	E	2 3/8"	2 3/4"	2 1/8"	1.8	**3.50**
A-3310	SGL, 45, 2B6, 6L6, 6V6, 25A6, 25A7	A	5,000	4, 8, 15, 500	55	20	C	3 1/8"	2 5/8"	2 5/8"	2.5	**5.00**
A-3800	P.P. 6L6 P.P. 2A3, 6A3, 45	A AB	5,000	4, 8, 15, 250, 500	80	30	C	3 1/2"	2 15/16"	3 1/8"	3.7	**5.65**
A-3307	P.P. 2A5, 6F6, 42 P.P. 46, 59 P.P. PAR. 6A6, 6N7, 53	AB2 B	6,000	4, 8, 15, 500	100	30	C	3 1/2"	2 15/16"	3 1/8"	3.6	**6.00**
A-3801	P.P. 6L6	AB1	6,600	4, 8, 15, 250, 500	150	35	C	3 7/8"	3 1/4"	3 3/8"	5.0	**6.60**
A-3822	SGL, 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5, 38, 41, 42, 47, 59, 89	A	7,000 10,000	0.7, 1, 1.4 2, 2.8, 4	45	5	Q	1 3/8"	2 3/8"	1 1/2"	0.5	**1.45**
A-3878	SGL, 2A5, 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 20, 31, 33, 42	A	7,000	4	30	5	A	1 5/16"	2 3/8"	1 1/16"	0.5	**1.15**
A-2313	SGL, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5, 33, 41, 42, 47, 59, 89	A	7,000	8	40	10	A	1 7/8"	3 1/4"	1 5/8"	1.1	**1.75**
A-3855	SGL, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5, 33, 41, 42, 47, 59, 89 P.P. 12A5, 45	A	7,000	10, 2,000	40	5	E	2 1/4"	2 3/4"	2 1/8"	1.7	**3.40**
A-2201	SGL, 6A6, 53 P.P. 25A6, 43, 45, 48, 71	A	8,000	6	40	10	A	1 7/8"	3 1/4"	1 5/8"	1.0	**2.25**
A-3824	SGL. 6A6, 6N7, 53 P.P. 46	B	8,000	1, 2, 4	75	8	Q	1 7/8"	3 1/4"	2"	1.4	**2.40**
A-3885	P.P. 6L6	AB1	9,000	4, 8, 15, 250, 500	150	35	C	3 7/8"	3 1/4"	3 3/8"	5.0	**6.60**
A-3304	SGL. 6A4, 6B5, 6N6 P.P. 6V6, 45 SGL, 6A6, 6N7, 53 P.P. 6AC5	A B 	7,000 7,000 10,000 10,000	4, 8, 15, 500	60	25	C	3 1/8"	2 5/8"	2 5/8"	2.6	**4.80**
A-3879	SGL. 1J6, 3C5, 6A4, 6G6, 6N7, 6R7, 12A, 38	A	10,000	4	30	5	A	1 5/16"	2 3/8"	1 1/16"	0.5	**1.20**
A-3831	SGL. 1G6, 1J6, 19, 6E6 P.P. 30, 49	B	10,000	2, 4, 8	40	5	A	1 19/32"	2 7/8"	1 5/16"	2.6	**1.75**
A-3839	SGL. 1G6, 1J6, 19 P.P. 1H4, 30, 49 SGL. 1G5, 3C5, 6G6, 6R7, 12A	B A	10,000	4, 8, 15, 2000	30	10	E	2 1/4"	2 3/4"	2 1/8"	1.7	**3.95**
A-3311	SGL. 6A6, 6N7, 53 P.P. 6B5, 6N6 P.P. 6F6, 6V6	B AB	10,000	4, 8, 15, 500	70	25	C	3 1/2"	2 15/16"	3 1/8"	3.8	**5.65**
A-3496	P.P. 2A5, 6F6, 6K6, 7B5, 33, 41, 42, 47, 49	A	14,000	4	45	5	A	1 3/8"	2 7/16"	1 5/16"	0.7	**1.70**
A-2312	P.P. 2A5, 6F6, 6K6, 7B5, 33, 41, 42, 47, 49	A	14,000	4	40	10	A	1 7/8"	3 1/4"	1 5/8"	1.1	**1.85**
A-3303	SGL, 6Y7, 6Z7, 79 P.P. 2A5, 6F6, 6K6, 7B5, 41, 42, 47, 59, 89	B A	14,000	4, 8, 15, 500	55	20	C	3 1/8"	2 5/8"	2 5/8"	2.6	**4.40**
A-3881	SGL, 1D8, 1E7, 1F4, 1F5, 1J5, 1T5, 6V7, 6Y7, 12A7	A	15,000	4	10	5	A	1 5/16"	2 3/8"	1 1/16"	0.5	**1.20**
A-3848	SGL. 1D8, 1F4, 1F5, 1J5, 1T5, 6R7, 950	A	16,000	1, 2 4	10	5	Q	1 3/8"	2 3/8"	1 1/2"	0.5	**1.55**
A-3857	SGL, 1A5, 1E7, 1N6, 6V7 P.P. 1F4, 1F5, 1J5, 1T5, 6G6, 12A7, 950	A	25,000 C.T.	4	10	5	A	1 3/8"	2 7/16"	1 5/16"	0.7	**1.60**

***10% Inverse Feedback Winding Used.** **NOTE: All transformers shown for P. P. operation have C. T.**

AUDIO TRANSFORMERS

PLATE TO GRID INTERSTAGE TRANSFORMERS

Stancor Number	From	To	Primary Impedance	Secondary Impedance	Turns Ratio Sec. to Pri.	D.C. Primary Ma.	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price
A-4205	20,000 ohm plate	Grid	20,000	115,000	2.4:1	15	C	3⅛"	2⅝"	2⅝"	2.5	$5.35
A-53 C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1⅜"	2⅜"	1½"	0.5	**1.55**
A-63 C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1⅝"	2 13/16"	1½"	0.75	**1.80**
A-73 C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	2"	3 5/16"	1⅝"	1.0	**2.25**

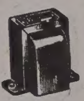


TYPE "A"

PUSH-PULL INPUT TRANSFORMERS

A-2132	Screen Grid Tube	P.P. Grids	10,000	10,000	1:1	10	S	3"	4"	2 1/16"	2.4	**$4.70**
For coupling screen grid or power detector.												
A-52 C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	1⅜"	2⅜"	1½"	0.5	**1.55**
A-62 C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	1⅝"	2 13/16"	1½"	0.75	**1.80**
A-4741	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	S	2"	1⅝"	1⅝"	0.8	**1.85**
A-4745	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	E	2⅜"	2⅝"	2⅛"	1.5	**3.60**
For super-regenerative detector static shield between windings.												
A-53 C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	1⅜"	2⅜"	1½"	0.5	**1.55**
A-63 C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	1⅝"	2 13/16"	1½"	0.75	**1.80**
A-73 C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2"	3 5/16"	1⅝"	1.0	**2.25**
A-103C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2⅝"	4 1/16"	2"	2.2	**4.40**
A-4155	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	L	2¼"	2 3/16"	2⅝"	1.2	**2.50**
A-4719	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	E	2⅜"	2⅝"	2⅛"	1.5	**3.95**
A-4750	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	S	2¼"	2⅞"	1⅝"	1.0	**2.25**
A-4740	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	S	2"	2⅜"	1½"	0.75	**2.00**
A-83 C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2¼"	3 11/16"	1⅞"	1.5	**3.50**
A-4206*	20,000 ohm plate	P.P. Grids	20,000	180,000	3:1	15	C	3⅛"	2⅝"	2⅝"	2.5	**5.25**
A-64 C	10,000 ohm plate	P.P. Grids	10,000	160,000	4:1	10	S	1⅝"	2 13/16"	1½"	0.75	**2.00**

*Split Secondary.



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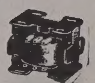


TYPE "L"

PUSH-PULL INTERSTAGE TRANSFORMERS

A-4208*	P.P. Plates	P.P. Grids	25,000	13,000	1:1.39	15	C	3⅛"	2⅝"	2⅝"	2.5	**$4.30**
A-4711	P.P. Plates	P.P. Grids	20,000	20,000	1:1	10	A	1⅝"	2 13/16"	1½"	0.8	**2.25**
A-4772*	P.P. Plates	P.P. Grids	20,000	45,000	1.5:1	10	S	3⅛"	2⅝"	2⅝"	2.2	**4.20**
A-4777*	P.P. Plates	P.P. Grids	20,000	45,000	1.5:1	10	C	3⅛"	2⅝"	2⅞"	2.5	**4.75**
A-4155	P.P. Plates	P.P. Grids	10,000	90,000	3:1	10	L	2¼"	2 3/16"	2⅝"	1.2	**2.50**

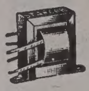
*Split Secondary.

UNIVERSAL INTERSTAGE TRANSFORMERS

(Split Secondaries)

May be used as plate to grid; push-pull input or push-pull interstage replacement transformers. Have 3:1 over all ratio, however primary is center-tapped and secondary has split winding thus permitting ratios of 1:1, 3:1 and 6:1. Transformers may be used in either step-up or step-down applications.

Stancor Number	Application	Turns Ratio	D.C. Pri. Ma.	Type Mtg.	Dimensions H	W	D	Mounting Centers	Weight in Carton	List Price
A-4773	Universal	3:1	10	E	2⅜"	2"	2⅛"	2⅜"	1.5	**$3.10**
A-4774	Universa	3:1	10	S	2¼"	2⅞"	2¼"	2⅜"	1.5	**2.60**
A-4775	Universal	3:1	10	S	2⅞"	3¼"	2⅜"	2¾"	1.8	**3.50**



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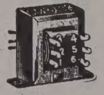
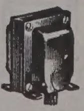


TYPE "J"

DRIVER TRANSFORMERS

Stancor Number	From	To	Class	Primary Impedance	½ Sec. Impedance	Turns Ratio Pri. to ½ Sec.	D.C. Primary Ma.	Type Mounting	Mounting Dimensions H	W	D	Wgt. in Ctn.	List Price
A-4722	1-42, 47, 2A5, 6K6	P.P. 42, 2A5, 6F6, 6K6	AB	10,000	10,000	1:1	30	E	2¼"	2¾"	2⅛"	1.5	**$3.00**
A-4752	1-6G6G, 6F6, 42, 2A5 as Triodes	P.P. Grids 6V6, 6Y6, 6F6, 6L6, 6Z7	AB	10,000	2,500 4,400 10,000	2:1 1.5:1 1:1	35	S	2¼"	2⅞"	1⅞"	1.5	**2.50**
May be used from P.P. primary wilh ratio of 2:1.													
A-4713	1-46, 45, 2A5, 6F6,	P.P. Grids 79, 2A5, 6A6, 6F6	AB	10,000	2,500	2:1	30	A	1⅝"	2 13/16"	1½"	0.7	**1.85**
A-4292	1-6C5, 30, 49	1-1J6, 19, 2-30, 2-49	B	10,000	1,600	2.5:1	10	A	1⅝"	2 13/16"	1½"	0.7	**1.85**
A-4734	1-30, 2A5, 6A6, 1G5, 6F6, 6K6	P.P. Grids 19, 2A5, 6A6, 1J6	B	10,000	1,600	2.5:1	15	A	2¼"	2⅞"	1⅞"	1.4	**2.20**
A-4401	1-27, 30, 37 56, 76, 6C5, 1H4, 6J5	1-19, 79, 1J6	B	10,000	1,400	2.66:1	15	J	2⅜"	2¾"	2¼"	1.3	**2.70**
A-4723	1-30, 2A5, 6A6, 1G5, 6K6 etc.	P.P. Grids 19, 79, 2A5, 6A6 6F6, 1J6, 6K6.	B	10,000	1,100	3:1	30	A	1⅝"	2 13/16"	1½"	0.7	**1.85**
A-4712	P.P. 27, 30, 37, 56, 76, 6C5, 1H4, 6J5	P.P. 19, 53, 6A6, 1J6, 6N7	B	20,000	2,200	3:1	10	A	1⅝"	2 13/16"	1½"	0.7	**1.85**



TYPE "C"

AUDIO TRANSFORMERS

TYPE "A"

TYPE "B"

TYPE "Q"

TYPE "E"

TYPE "C"

TYPE "D"

UNIVERSAL LINE TO VOICE COIL TRANSFORMERS

Stancor Number	or Coupling	Primary Impedance	Secondary Impedance	Max. Audio Watts	Type Mounting	Dimensions H	W	D	Weight in Carton	List Price
A-3882	Line to voice coil	250, 333, 500	4, 8, 15	25	D	3⅛"	2⅝"	3⅛"	2.6	**$4.80**
A-3883	Line to voice coil	500	4, 6, 8, 15	25	J	2¼"	1⅞"	1½"	1.5	**2.80**
A-3818	Line to voice coil	500, 1000, 1500	4, 8, 15	25	B	3⅛"	2¾"	2⅝"	2.6	**3.60**
A-3820	Line to voice coil	500, 1000, 1500, 2000	4, 8, 15	40	D	4¼"	3½"	3⅝"	5.8	**7.30**
A-3838	Line to speakers autoformer)	500	250, 166, 125, 100, 84	30	B	3⅛"	2⅝"	2¾"	2.6	**4.35**
A-3837	Line to voice coil. 1 to 6 can be paralleled across 500 ohm line	500, 1000, 1500, 2000, 2500, 3000	.06 to 8 ohm from primary of 500 ohms. .12 to 16 from 1000, etc.	15	J	2¼"	2⅞"	2½"	2.0	**3.80**

MICROPHONE, PICKUP OR LINE TO GRID TRANSFORMERS

Stancor Number	From	To	Impedance Pri.	Impedance Sec.	Ratio Overall	Type Mounting	Dimensions H	W	D	Weight in Carton	List Price
A-6199	S.B. Microphone	Single Grid	200	160,000	1:28.4	W-1	2½"	1¹³⁄₁₆"	2"	2.5	**$5.40**
A-4742	S.B. Microphone	Sgl. or P.P. Grids	100	400,000 C.T.	1:64	S	2¼"	2⅞"	2⅜"	1.0	**2.50**
A-4743	S.B. Microphone. Has shield cover which encloses entire coil.	Sgl. or P P. Grids	100	400,000 C.T.	1:64	S	2¼"	2⅞"	2½"	1.1	**2.80**
A-4707	S.B. Microphone	Single Grid	100	58,500	1:24.2	J	2"	2½"	1½"	0.8	**1.85**
A-4706	S.B. Mirophone	Single Grid	100	60,000	1:24.6	A	1⅜"	2⅜"	1½"	0.6	**1.50**
A-4708	D.B. Microphone	Single Grid	200 C.T.	57,000	1:17	J	2"	2½"	1½"	0.8	**2.20**
A-4727	D.B. Microphone	Single Grid	200 C.T.	100,000	1:22.2	E	2⅜"	2¾"	2⅛"	1.8	**3.50**
A-4709	Dynamic or Pickup	Single Grid	4, 8, 15, 30	106,000	1:60	E	2⅜"	2¾"	2⅛"	1.8	**3.55**
A-4351	S.B. or D.B. Microphone or Line	Single Grid	50, 125, 200, 333, 500	89,000	1:13.3	E	2"	3⁵⁄₁₆"	1⅝"	1.0	**3.10**
A-4408	S.B. or D.B. Microphone or Line	Single Grid	50, 125, 200, 333, 500	80,000	1:12.5	D	3⅛"	2⅝"	3⅛"	2.6	**6.10**
A-4411	D.B. Microphone Low Imp. Pickup	Single Grid	200 C.T. or 500	144,000	1:17.5	C	3⅛"	2⅝"	2⅝"	2.6	**4.75**
A-4726	D.B. Microphone & 200 ohm line	P.P. Grids	200 C.T.	100,000	1:22.3	E	2⅜"	2¾"	2⅛"	1.8	**3.50**
A-4352	S.B. or D.B. Microphone or Line	P.P. Grids	50, 125, 200, 333, 500	89,000	1:13.3	Q	2"	3⁵⁄₁₆"	1⅝"	1.0	**3.50**
A-4409	S.B. or D.B. Microphone or Line	P.P. Grids	50, 125, 200, 333, 500	157,000	1:17.7	D	3⅛"	2⅝"	2⅝"	2.6	**6.30**
A-4705	S.B. Microphone	Single Grid	200 or 70	80,000	1:20	A	1⅜"	2⅜"	1⅜"	0.5	**1.50**
A-4728	1, 2, 3, or 4 Circuit Mixer	Single Grid	50, 100, 150, 200	1000,00	1:22.2	E	2⅜"	2¾"	2⅛"	1.8	**5.00**
A-4729	1, 2, 3, or 4 Circuit Mixer	Single Grid	200, 400, 600, 800	100,000	1:11.2	E	2⅜"	2¾"	2⅛"	2.0	**5.00**

INTERCOMM. INPUT TRANSFORMERS

Stancor Number	From	To	Impedance in Ohms Pri.	Sec.	Core Size	Type Mtg.	Dimensions H	W	D	Mtg. Ctrs.	Wgt. in Ctn.	List Price
A-4744	Voice Coil	Sgl. grid	4	25,000	½"x⅝"	A	1⅜"	2⅜"	1½"	2⅜"	0.5	**$1.55**

Has shield cover enclosing entire coil.

HEARING AID CHOKES (MANUFACTURERS' TYPES)

These small uncased chokes are made available because of mounting interest created by the recent release of very small midget tubes. Two typical circuits are shown in the current issue of Stancor's Service Guide. Measurements shown are made with .5 M.A.-D.C. in windings; impedances given are from actual measurements; all inductances are calculated values.

Because of their extremely small size these chokes are not as rugged as their bigger Stancor brothers, and care should be exercised when using them to see that current carrying capabilities are not exceeded.

Stancor No.	D.C. ohms Resistance		400 Cycles 2VAC	400 Cycles 10VAC	200 Cycles 2VAC	200 Cycles 10VAC	60 Cycles 2VAC	60 Cycles 10VAC	Dimensions H	W	D	List Price
C-65	1,875	Impedance (ohms), Inductance (Hys.)	54,000 21.5	70,000 27.9	27,000 21.5	39,000 31	11,500 30.5	18,000 47.5	¾"	⅝"	⁹⁄₁₆"	**$3.60**
C-66	3,675	Impedance (ohms), Inductance (hys.)	77,000 31	88,000 35.1	37,000 30	48,000 38.3	14,500 38	21,000 55.6	¾"	⁷⁄₁₆"	⁹⁄₁₆"	**5.90**
C-67	2,520	Impedance (ohms), Inductance (hys.)	96,000 38.4	113,000 45	45,000 36	62,000 49.5	18,000 47.6	25,500 67.5	⅞"	¾"	⁹⁄₁₆"	**4.50**

TONE CONTROL UNIT

The necessary components for a dual tone control circuit to provide both bass and treble attenuation when used in conjunction with two dual 250,000 ohm potentiometers. Contained in Hi-Fi type W-1 cast case for shielding against hum pickup and provided with 12" Flexible Coded Leads for direct connection in the circuit. Dimensions H.3½" x W.2¾" x L.3¹⁄₁₆"

STANCOR No. **C-2332-1**...**List $6.30**

MISCELLANEOUS TRANSFORMERS

FENCE CONTROLLER TRANSFORMERS

Stancor Number	Primary Voltage	Filament Volts	Filament Amps.	Secondary Open Circuit	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price
P-6122	6V.D.C.	None	...	3000 Inst. Peak	A*	2⅛"	2⅝"	2"	1.5	**$2.50**
P-6126†	200V. A.C.	None	...	3000 Inst.	N*	2¾"	3⅛"	2¼"	4.0	**4.40**
P-6127	115V. A.C.	5.0 2.0	2.0 8.0	900 V. (25 Ma. Peak)	N*	4½"	3⅜"	2¾"	2.0	**7.50**

*Has special moisture resisting compound overall.
†P-6126 special output transformer used in conjunction with P-6127 power transformer. Insulated for 5000V. A.C.

VARIABLE LINE AUTOFORMERS

These transformers designed so that associated equipment may be kept at a specific input voltage regardless of line voltage. Line regulating transformers continuously variable in 5 volt steps from 85-125 volts.

Stancor Number	Primary Volts	Primary Cycles	Secondary Volts	Output Watts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price
P-5066	85-125	50-60	85-125	35	B	3⅛"	2½"	2½"	2.0	**$4.60**
P-5067	85-125	50-60	85-125	75	B	3½"	3"	2¾"	3.4	**5.90**
P-5068	85-125	50-60	85-125	125	B	3½"	3"	3⅛"	4.0	**6.90**
P-6145	85-125	50-60	85-125	500	B	4½"	3¾"	4½"	10.0	**11.35**

SPECIAL AUTOFORMER

This Autoformer will deliver full output wattage at any secondary voltage specified above or can be used to supply any voltage in 5 volt steps from zero to 130 volts for special experimental applications.

P-6148	25-55-75 95-105-110 115-120 125-130	50-60	25-55-75 95-105-110 115-120 125-130	250	B	4½"	3¾"	3¾"	8.0	**$10.00**

TESTING AUTOFORMER

Incorporates a convenient tap switch to permit variable voltages from 90 to 150 volts. Primary equipped with 5 ft. approved cord and plug. Secondary connected to female receptacle. Locking screw mounted on switch.

Stancor No.	Secondary Voltage	Primary Voltage	Output Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Carton	List Price
P-6299	90, 100, 110, 120, 130, 140, 150, @ 50-60 cy.	115V.	150	KA	3⅞"	3¼"	4¾"	8.0	**$9.75**

UNIVERSAL SPEAKER FIELD SUBSTITUTE CHOKE

Designed for the service department, to take the place of the speaker field on the test bench. It is so designed that, when used with tap switch or plug-in jacks, all popular speaker field impedances and resistance are readily obtained. May also be used as substitute filter choke in radio to determine correct unit to use. Packed complete with full instructions.

Stancor No.	D.C. Resistance in Ohms	Resistance and Current Rating	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wt. in Carton	List Price
C-2302	3000 tapped at 2500, 1000 and 750	250, 750, 1000, 1750 ohms — 60 Ma. cont. or 75 Ma. Int. Duty 500, 1500, 2000, 2250, 2500, 3000 ohms — 40 Ma. cont. or 55 Ma. Int. Duty	B	3⅜"	2⅞"	3"	2.6	**$5.35**

STEP-DOWN AUTOFORMER

These transformers are excellent units to be used with standard apparatus on 220-250 volt lines. May also be wired to step up 110-125 volts to 220-250 volts for test.

Stancor Number	Primary Volts	Primary Cycles	Secondary Volts	Output Watts	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price
P-6287	220-250	50-60	110-125	40	*	4¼"	3"	3"	2.5	**$4.75**
P-5062	220-250	50-60	110-125	80	K	3½"	2¹⁵⁄₁₆"	3¼"	4.5	**6.00**
P-5063	220-250	50-60	110-125	100	K	3⅞"	3¼"	3¼"	5.2	**6.90**
P-5064	220-250	50-60	110-125	150	K	4¼"	3½"	3⅝"	6.6	**7.85**
P-5065	220-250	50-60	110-125	250-300	K	4⅝"	3⅞"	4⅛"	9.8	**10.00**
P-6141	220-250	50-60	110-125	500	K	4⅝"	3⅞"	5¼"	14.5	**15.00**
P-6124	220-250	50-60	110-125	1000	F	7⅜"	6"	6⅛"	30.0	**25.25**

*Mounted in special can and equipped with cord, plug and receptacle.

ISOLATION TRANSFORMERS

These transformers are designed with an electro-static shield to isolate line noises and interference from the apparatus being used. They are suitable for screen test booths, electrical therapeutic machines, medical instruments, beauty parlor equipment, electric furnaces, amateur transmitters, etc. Each unit complete with a 6 ft. cord and plug and a female receptacle. Primary tapped for 105, 115, and 125 volt, 50-60 cycles. Secondary rated at 115 volts, Tapped switch controls primary voltage, except on Nos. P-6123 and P-6125.

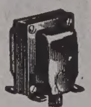
Stancor Number	Watts	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price
P-6160	100	KA	4⅝"	3⅞"	3⅜"	5.5. lbs	**$12.60**
P-6161	250	KA	4⅝"	3⅞"	5¼"	14.0 lbs.	**24.50**
P-6298	500	FK	7⅜"	6"	6¼"	37.0 lbs.	**37.75**
P-6125	1000	FK	7½"	7⅛"	6½"	50.0 lbs.	**50.00**
P-6123	1500	FK	7½"	7⅛"	7½"	60.0 lbs.	**63.00**

NOTE: Type FK is Type F with female receptacle mounted in side.

TUBE CHECKER TRANSFORMER

Especially designed for use in modernizing older types of tube checkers. Ideal for other testing equipment and laboratory. Packed with wiring instructions giving color coding of leads.

Stancor Number	Primary Volts	Primary Cycles	Secondary Volts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Wgt. in Carton	List Price
P-1834-3	105, 115, 125	50-60	1.1, 1.4, 1.5, 2.0, 2.5, 3.0, 3.3, 5.0, 6.3, 7.5, 12, 25, 30, 35, 50, 70, 85, 110, 117	A	2⅝"	4¹⁄₁₆"	2"	2.6	**$8.65**



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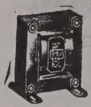

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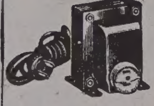

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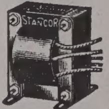

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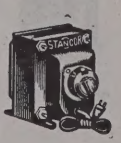

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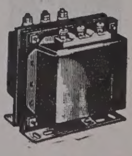
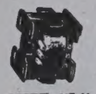


TYPE "F"

CHOKES -- MISC. TRANSFORMERS

TYPE "A"



TYPE "L"

TYPE "Q"

TYPE "B"

TYPE "D"

TYPE "KB"

FILTER CHOKES (REPLACEMENT TYPES)

Stancor Number	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price
C-1515	50	15	900	1650	A	1⅝″	2¹³⁄₁₆″	1½″	0.7	**$1.20**
C-1706	5	50	300	1650	A	1⁵⁄₁₆″	2⅜″	1¹⁄₁₆″	0.5	**1.15**
C-1707	7	50	500	1650	A	1⁵⁄₁₆″	2⅜″	1¹⁄₁₆″	0.5	**1.15**
C-1003	30	50	550	1650	A	1⅞″	3⁵⁄₁₆″	1⅝″	1.4	**1.55**
C-1708	10	65	460	1650	A	1⅞″	3¼″	2¹³⁄₁₆″	1.1	**1.50**
C-1355	20	75	275	1650	L	2¼″	2³⁄₁₆″	1⅝″	1.2	**1.50**
C-1002	30	75	400	1650	A	2¼″	3¹¹⁄₁₆″	1⅞″	1.7	**2.10**
C-1709	9	85	250	1650	A	1⅞″	3¼″	2¹³⁄₁₆″	1.5	**2.00**
C-1710	8	150	200	1650	A	2½″	4″	2¹⁄₁₆″	2.3	**2.50**
C-2305	20	100	275	2000	E	2⅜″	2¾″	2⅛″	1.7	**2.50**
C-2303	10	130	100	2000	A	2″	3⅜″	1⅝″	1.4	**1.85**
C-2304	8	150	65	2000	A	2″	3⅜″	1⅝″	1.4	**1.85**
C-2309	8	150	90	2000	A	2¼″	3¹¹⁄₁₆″	1⅞″	1.5	**2.20**
C-1001	30	110	200	3000	A	2½″	4″	2″	2.4	**2.65**

A.C.-D.C. CHOKES

Stancor Number	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	H	W	D	Weight in Carton	List Price
C-1723	4.4	50	330	1600	A	1⁵⁄₁₆″	2⅜″	1¹⁄₁₆″	0.5	**$1.15**
C-1711	4.5	50	325	1600	Q	1⁵⁄₁₆″	2⅜″	1¹⁄₁₆″	0.5	**1.15**
C-1080	15	50	200	1600	A	1⅝″	2¹³⁄₁₆″	1⅜″	0.6	**1.20**
C-1325	15	50	250	1600	A	1⅝″	2¹³⁄₁₆″	1⅜″	0.6	**1.20**
C-1277	15	50	300	1600	A	1⅝″	2¹³⁄₁₆″	1⅜″	0.6	**1.20**
C-1227	15	50	350	1600	A	1⅝″	2¹³⁄₁₆″	1⅜″	0.6	**1.20**
C-1279	15	50	400	1600	A	1⅝″	2¹³⁄₁₆″	1⅜″	0.6	**1.20**
C-1333	15	50	450	1600	A	1⅝″	2¹³⁄₁₆″	1⅜″	0.6	**1.20**
C-1215	15	50	500	1600	A	1⅝″	2¹³⁄₁₆″	1⅜″	0.6	**1.20**
C-1362	15	50	550	1600	A	1⅝″	2¹³⁄₁₆″	1⅜″	0.6	**1.20**

OUTPUT CHOKES

Stancor Number	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	H	W	D	Weight in Carton	List Price
C-1003	30	50	550	1600	A	2″	3⁵⁄₁₆″	1⅝″	1.4	**$1.55**
C-1034*	30	30	1150	1600	A	1⅞″	2¼″	1⅝″	1.3	**1.90**

*Center tapped.

AUDIO REACTORS

Stancor Number	Rated Inductance Henries	Inductance Measured at Ma.	Max. Current Ma.	D.C. Res. Ohms	Volts Insulation	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price
C-2300	1000	0.5	10	5500	1600	E	2⅜″	2⅝″	2⅛″	1.5	**$2.70**
C-2301	300	5	10	6000	1600	E	2⅜″	2⅝″	2½″	1.8	**3.00**
C-1701*	300	10	10	11400	1600	D	3⅛″	2⅝″	2⅜″	2.5	**5.30**

*Center tapped.

TRANSCEIVER — TRANSFORMERS

Small compact, efficient, light weight transformers for transceiver and aeronautical applications.

Stancor Number	Type	Impedance Pri.	Impedance Sec.	D.C. Pri. Ma.	Max. Audio Watts	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price
A-3833	Sgl. Button Micro. and Plate to Single Grid.	5,000 200	60,000	10	5	A	1⅝″	2¹³⁄₁₆″	1½″	0.7	**$2.10**
A-3836	Pentode Plate to Low or High Impedance Phone or Oscillator	10,000	2,000 50	30	5	A	1⅝″	2¹³⁄₁₆″	1½″	0.7	**2.35**
A-4413	Sgl. Button Micro. and Plate to Single Grid.	10,000 200	90,000	45	10	J	2⅝″	2¾″	2¼″	1.5	**3.10**

VOLT ADJUSTERS

STANCOR'S volt-adjuster is the answer to the fluctuating voltage problem. It is a compact unit containing a ruggedly constructed step-up; step-down autoformer.

The primary winding accommodates various voltages in 10 volt steps. A 10 position tap switch with an off position permits changing of the primary winding when a voltage shift occurs, and through this switch the output may be changed and kept at 115 or 230 volts. A meter with 0-150 or 0-250 volt range indicates the output at all times. The nominal output is indicated on the meter face by a red line. The entire unit is housed in a beautifully designed modern black wrinkle finished case and is equipped with a six foot approved rubber cord and plug.

Stancor Number	Voltages Primary	Voltages Secondary	Freq. in Cycles	Output Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
P-6171	65, 75, 85, 95, 105 115, 125, 135, 145	115	50-60	150	KB	7″	4″	5″	7.0	**$16.20**
P-6245	170, 180, 190, 200, 210, 220, 230, 240, 250	230	50-60	150	KB	7″	4″	5″	7.0	**16.75**
P-6247	65, 75, 85, 95, 105, 115, 125, 135, 145	115	50-60	300	KB	7″	4″	5″	9.0	**20.40**
P-6246	170, 180, 190, 200, 210, 220, 230, 240, 250	230	50-60	300	KB	7″	4″	5″	9.0	**21.00**
P-6248	65, 75, 85, 95, 105, 115, 125, 135, 145	115	50-60	500	KB	7″	4″	5″	12.5	**26.50**
P-6231	170, 180, 190, 200, 210, 220, 230, 240, 250	230	50-60	500	KB	7″	4″	5″	12.5	**28.75**
P-6230	65, 75, 85, 95, 105, 115, 125, 135, 145	115	50-60	1000	KB	10″	7″	7″	27.	**82.75**
P-6230C	170, 180, 190, 200, 210, 220, 230, 240, 250	220	50-60	1000	KB	10″	7″	7″	27.	**85.00**

PLATE TRANSFORMERS -- CHOKES

PLATE TRANSFORMERS

This group of transformers is designed primarily to deliver the rated D.C. voltage and current outputs when used with full-wave mercury vapor rectifier tubes in conjunction with a two section filter employing choke input and two 2 mfd. condensers working into a resistive load. Generous coil and core design result in a transformer with above average regulation and efficiency. Phenolic terminal boards and heavy duty ceramic insulators assure protection from voltage breakdown.

Stancor Number	Primary Voltage	D. C. Voltage After Filter	Taps	Current in Ma.	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price
P-8040	115	400	40	300	C	4⅝"	3⅞"	4⅞"	12.3	**$11.25**
P-8041	115	500	400-40	250	C	4⅝"	3⅞"	5½"	9.0	**13.75**
P-8042	115	600	400-40	300	C	4⅝"	3⅜"	6½"	16.5	**18.00**
P-8043	115	750	600-40	300	FS	7½"	6⅛"	8"	27.2	**27.00**
P-8044*	115	1000	400	150-150	FS	7½"	6⅛"	8¼"	28.0	**29.00**
P-8045	115	1000	750	250	FS	7½"	6⅛"	8"	27.2	**27.00**
P-8025	115	1000	750	400	FS	7½"	6⅛"	8¾"	35.5	**32.00**
P-8026	115	1250	1000	300	FS	7⅝"	7⅜"	8¾"	36.0	**34.00**
P-8027	115	1250	1000	500	FS	7⅝"	7⅜"	9½"	40.0	**42.00**
P-8028	115	1500	1250	300	FS	7⅝"	7⅜"	9"	38.0	**37.50**
P-8029	115-230	1500	1250	500	FS	7⅝"	7⅜"	9¼"	52.0	**52.50**
P-8030	115	1750	1500	300	FS	7⅝"	7⅜"	9½"	40.0	**41.00**
P-8031	115-230	1750	1500	500	FS	11"	7⅜"	9¼"	52.0	**55.00**
P-8032	115	2000	1750	300	FS	7⅝"	7⅜"	9¾"	45.0	**43.00**
P-8033	115-230	2000	1750	500	FS	11"	7⅜"	10"	57.0	**67.50**
P-8034	115-230	2500	2000	300	FS	7⅝"	7⅜"	9¼"	52.0	**51.00**
P-8035	115-230	2500	2000	500	FS	11"	7⅜"	10¼"	60.0	**80.00**

*Secondary with taps suitable for dual rectifier supply. Each output available at rated current.

Note: Transformers with more than one high voltage output have secondary with taps suitable for dual rectifier supply. Total current should not exceed rating.

BIAS TRANSFORMERS

Stancor No.	D.C. Output Volts	Ma.	Filament Volts	Amps.	Primary Volts	Mounting Type	Dimensions H	W	D	Weight in Carton	List Price
P-6317	90-130-170-200	200	5	3	115	CD	3⅞"	3¼"	3¾"	4.9	**$9.60**
P-6318	250-350-400-450	200	5	3	115	CD	4¼"	3⁹⁄₁₆"	4¼"	7.0	**10.80**

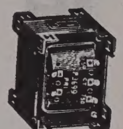
Above plate and bias transformers are for listed voltage 50-60 cycle operation.
Other voltage and frequency combinations available on special order. Write for quotations.

CHOKES — SWINGING

Stancor Number	Inductance in Henries	Maximum Current-in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price
C-1718	8-30	150	130	2000	C	3⅛"	2½"	2½"	2.5	**$4.10**
C-1400	8-40	175	100	3000	C	3⅛"	2½"	2½"	2.7	**3.80**
C-1719	5-25	200	120	3000	N	3¾"	3⅛"	3¼"	5.0	**5.00**
C-1401	8-30	200	80	3000	C	3½"	2¹³⁄₁₆"	3⅛"	3.5	**4.70**
C-1645	8-35	200	85	5000	C	3⅞"	3¼"	3⅜"	4.7	**5.25**
C-1702	8-30	250	60	3000	B	3½"	2¹³⁄₁₆"	3"	3.9	**5.00**
C-1402	8-30	250	60	3000	C	3⅝"	2¹³⁄₁₆"	3⅛"	4.6	**5.50**
C-1720	5-25	300	80	3000	N	4½"	3¾"	3½"	8.5	**6.30**
C-2307	5-25	300	80	3000	C	4⅝"	3⅞"	3⅞"	9.0	**8.15**
C-1403	8-25	300	80	5000	D	4⅝"	3⅞"	3⅞"	8.4	**8.65**
C-1404	5-25	400	60	5000	D	4⅝"	3⅞"	4⅞"	12.3	**11.35**
C-1405	5-20	500	65	5000	F	8⁵⁄₁₆"	6"	5¾"	17.0	**18.90**

CHOKES — FILTER

C-1420	30	80	350	2000	C	3⅛"	2½"	2½"	2.6	**$3.10**
C-1421	25	140	160	3000	C	3⅛"	2½"	2½"	2.7	**3.80**
C-1410	20	175	100	3000	C	3⅛"	2½"	2½"	2.7	**3.60**
C-1721	15	200	120	3000	N	3¾"	3⅛"	3¼"	4.5	**4.80**
C-1411	15	200	80	3000	C	3⅝"	2¹³⁄₁₆"	3¼"	4.0	**4.70**
C-1646	20	200	70	5000	C	3⅞"	3¼"	3⅜"	4.7	**5.25**
C-1703	15	250	60	3000	B	3½"	2¹³⁄₁₆"	3½"	3.9	**5.00**
C-1412	15	250	60	3000	C	3⅝"	2¹³⁄₁₆"	3¼"	4.8	**5.50**
C-1722	13	300	80	3000	N	4½"	3¾"	3½"	8.5	**6.30**
C-2308	13	300	80	3000	C	4⅝"	3⅞"	3⅞"	9.0	**8.15**
C-1413	12	300	80	5000	D	4⅝"	3⅞"	3⅞"	8.5	**8.65**
C-1414	10	400	60	5000	D	4⅝"	3⅞"	4⅞"	13.5	**11.35**
C-1415	8	500	65	5000	F	8⁵⁄₁₆"	6"	5¾"	17.0	**18.90**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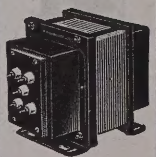
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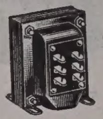
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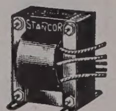
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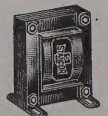
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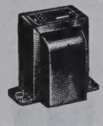
FILAMENT TRANSFORMERS

TYPE "C"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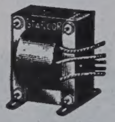
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TYPE "B"

TYPE "D"

SINGLE SECONDARY

All secondary windings are center tapped except those marked with asterisk (*).

Stancor Number	Primary Voltage	Secondary C. T.		Type Mounting	Mounting Dimensions			Insulation in Volts	Weight in Carton	List Price
		Volts	Amperes		H	W	D			
P-4026	115	2.5	1.5	A	1 9/16"	1 5/16"	2 3/16"	2,500	0.5	**$1.70**
P-4082	105-115	2.5	2.5	E	2⅜"	2⅝"	2⅛"	2,500	1.4	**2.90**
P-6133	115	2.5	5	S	2 11/16"	2½"	2¾"	7,500	2.7	**2.40**
P-6140	115	2.5	5.25	N	2 11/16"	2½"	2¾"	2,500	1.6	**2.50**
P-4083	105-115	2.5	6	C	3⅛"	2⅝"	2⅜"	2,500	2.2	**3.80**
P-3024	105-115	2.5	10	C	3⅛"	2⅝"	2⅝"	2,500	2.7	**4.75**
P-3060	115	2.5	10	B	3½"	2 13/16"	2½"	10,000	3.0	**4.10**
P-3025	105-115	2.5	10	FA	5"	4¼"	8¼"	10,000	5.3	**9.60**
P-3026	105-115	5	3	C	3⅛"	2⅝"	2⅝"	2,500	2.5	**3.80**
P-4088	115	5	3	B	3⅛"	2½"	2⅛"	2,500	2.0	**2.80**
P-3062	115	5	6	B	3⅛"	2½"	2¾"	2,500	2.5	**3.50**
P-5000	105-115	5	6	C	3⅛"	2⅝"	2⅞"	2,500	3.2	**4.40**
P-6135	115	5	10	N	3⅛"	2⅝"	3¼"	2,500	3.1	**4.40**
P-4086	105-115	5	14	FA	5"	4¼"	8¼"	10,000	9.4	**10.75**
P-6302	105-115	5	22	FA	5"	4¼"	8¼"	10,000	12.0	**12.50**
P-6136	115	5.25	4	N	2 11/16"	2½"	2¾"	2,500	2.3	**2.80**
P-6137	115	5.25	13	N	3⅞"	3¼"	3⅝"	2,500	4.2	**5.45**
P-5011	105-115	5.25	13	C	3⅞"	3¼"	3⅝"	2,500	5.8	**6.60**
P-6134	115	6.3	1.2	A	1⅝"	2 13/16"	1½"	2,500	0.6	**1.70**
P-5014	115	6.3	3	B	3⅛"	2½"	2¼"	2,500	2.0	**2.95**
P-4019	105-115	6.3	4	C	3⅛"	2⅝"	2⅝"	2,500	2.8	**4.40**
P-3064	115	6.3	6	B	3⅛"	2½"	2¾"	2,500	2.4	**3.50**
P-4089	105-115	6.3	6	C	3⅝"	2 15/16"	3⅛"	2,500	3.7	**4.75**
P-6308	115	6.3	10	N	3½"	2 13/16"	3⅛"	2,500	4.0	**4.60**
P-6309	115	6.3	20	N	4⅝"	3⅞"	3⅞"	2,500	7.5	**9.40**
P-5015	115	7.5	4	B	3⅛"	2½"	2½"	2,500	2.5	**3.00**
P-4091	105-115	7.5	5	C	3⅝"	2 13/16"	2⅞"	2,500	4.0	**5.00**
P-6138	115	7.5	8	N	3¾"	3⅛"	3½"	2,500	4.1	**4.75**
P-4092	105-115	7.5	8	C	3⅞"	3¼"	3⅝"	2,500	5.6	**6.00**
P-4094	105-115	7.5	15	FA	5"	4¼"	8¼"	5,000	7.8	**11.40**
P-4093	105-115	7.5	24	FA	5"	4¼"	8¼"	5,000	15.8	**16.75**
P-5016	115	10	4	B	3½"	3"	2⅞"	2,500	3.0	**3.80**
P-4096	105-115	10	5	C	3⅞"	3¼"	3⅜"	2,500	4.6	**5.65**
P-6139	115	10	8	N	3⅞"	3¼"	3½"	2,500	4.1	**5.00**
P-4097	105-115	10	8	C	3⅞"	3¼"	3⅝"	2,500	5.8	**6.30**
P-5002	105-115	10	12	FA	5"	4¼"	8¼"	7,500	11.6	**11.35**
P-3020	105-115	11	10	C	4⅝"	3⅞"	3⅞"	2,500	7.8	**9.10**
P-6164	115	*6.3,5,2.5	2.5	B	2⅝"	2¼"	2⅜"	2,500	1.8	**2.80**

MULTIPLE SECONDARY

P-5012	105-115	2.5 C.T. 5.0 C.T.	10.0 3.0	FA	5"	4¼"	8¼"	10,000	7.5	**$11.95**
P-3061	115	2.5 C.T. 7.5 C.T.	5.0 4.0	B	3½"	2⅞"	3"	2,000	3.5	**4.20**
P-6324	105-115	5.0 C.T. 2.5 C.T.	3.0 6.0	C	3⅞"	3¼"	3⅜"	2,500	5.0	**6.00**
P-5009	105-115	5.0 C.T. 6.3 C.T.	3.0 6.0	C	3⅞"	3¼"	3⅜"	2,500	4.7	**6.00**
P-5008	105-115	5.0 C.T. 6.3 C.T.	4.0 3.6	C	3½"	2 15/16"	3¼"	2,500	4.0	**5.65**
P-4022	105-115	5.0 C.T. 6.3 C.T.	6.0 6.0	C	3⅞"	3¼"	3⅜"	2,500	5.0	**6.30**
P-4090	115	6.3 C.T. 7.5 C.T.	3.0 4.0	B	3½"	2⅞"	3"	2,500	3.7	**4.20**
P-6144	115	2.5 C.T. 5.0 C.T. 6.3 C.T.	3.5 3.0 3.0	C	3½"	3¼"	3"	2,500	4.0	**6.30**
P-4084	105-115	5.0 C.T. 6.3 C.T. 7.5 C.T.	3.0 3.6 3.25	C	3⅞"	3¼"	3⅝"	2,500	5.6	**7.20**
P-6310	105-115	2.5 2.5 *2.5 *2.5	4.0 4.0 4.0 4.0	C	3½"	2 15/16"	3⅛"	2,500	3.7	**7.50**
P-6333	115	7.5, 6.3 C.T. *5.0 *5.0 *6.3	3.0 3.0 3.0 4.0	B	2⅞"	3⅜"	2¾"	2,500	4.6	**5.45**
P-6338	115	*6.3 *2.5 *5.0 5.0	3.0 3.0 3.0 2.0	C	3½"	2⅞"	3⅛"	2,500	4.0	**5.35**

***Windings not center tapped.**
Other voltage and frequency combinations available on special order. Write for quotations.

MODULATION TRANSFORMERS

POLY-PEDANCE MODULATION TRANSFORMERS

These most versatile Poly-Pedance transformers are tapped to give wide range of impedances for correctly matching every type of load. Impedance chart and instructions furnished with each unit.

Stancor No.	Max. Aud. Watts	Pri.Ma. Per Side	Secondary Ma.		Type Mtg.	Dimensions			Wt. in Carton	List Price
			Series	Parallel		H	W	D		
A-3891	15	45	45	90	D	3⅛″	2⅝″	3⅛″	2.5	**$6.95**
A-3892	30	80	80	160	D	3⅞″	3¼″	4⅜″	6.0	**8.50**
A-3893	60	125	125	250	D	3⅞″	3¼″	4⅞″	7.3	**10.00**
A-3894	125	150	150	300	D	4⅝″	3⅞″	5½″	12.0	**13.20**
A-3898	300	260	260	520	FS	7⅝″	7⅛″	8¾″	40.0	**47.50**
A-3899	600	350	350	700	FS	11″	7½″	10″	75.0	**98.00**

PLATE MODULATION TRANSFORMERS

Conservatively rated for continuous duty at maximum current and audio wattage. Well insulated against voltage breakdown. Excellent construction and impregnation assure quiet operation and long life.

Stancor No.	Output Tubes	Class	Impedance		D. C. Pri. Ma.	D. C. Sec. Ma.	Max. Audio Watts	Type Mounting	Dimensions			Weight in Carton	List Price
			Pri.	Sec.					H	W	D		
A-3812	1-1G6, 1J6, 19, 6E6, 6G6, 6Z7, P.P. 1H4, 30, 49, 1-1G5, 6K6, 37, 38, 41	B A	10,000	4,000	32	50	5	A	1⅝″	2³⁄₁₆″	1½″	0.7	**$1.70**
A-3871	1-6B5*, 6F6*, 6L6, 6N6*, HY69	A1	4,500	8,500	60	50	10	E	2⅜″	2¾″	2⅛″	1.8	**3.50**
A-3873	P.P. 6L6, RK56, HY60	AB1	8,500	8,000	100	100	25	C	3⅛″	2⅝″	3⅝″	6.1	**6.30**
A-3845	1-6A6, 6N7, 53, 79, 6Y7 P.P. 6F6, 6V6, 2A5, 42	B AB2	10,000	3,000, 5,000 6,500, 8,000	100	100	25	C	3⅛″	2⅝″	2¾″	3.5	**4.10**
A-3835	P.P.2A3,6A3,45 6A5, 6B4, 50, P.P. 6L6	AB A1	3,000 5,000	5,350, 8,350, 10,000	80	100	25	C	3⅞″	3¼″	3⅜″	5.2	**6.30**
A-6200	1-HY69; 807	A	4,000	5,000	80	80	12	W-2	3½″	2¾″	3¹⁄₁₆″	4.3	**6.90**
A-3868	P.P. 6L6	AB1	6,600	12,000	100	70	35	C	3⅛″	2⅝″	3⅝″	6.1	**6.00**
A-2906	P.P. 10, HK24, 46,59,801,1602 P.P. 6L6, 50, HY69	B AB	6,000	3,300, 4,000 5,000, 6,250	200	125	40	D	4⁵⁄₁₆″	3⁹⁄₁₆	4″	7.0	**8.15**
A-3843	P.P. 6L6, RK56, HY60	AB1	6,600	5,000, 7,500 14,500	150	150	40	D	4⁵⁄₁₆″	3⁹⁄₁₆″	3¾″	7.0	**8.50**
A-3874	P.P. 6L6	AB1	6,000	500, 2,800	100	200	50	C	4¼″	3½″	3½″	6.5	**8.50**
A-3808	P.P. 6L6, 807, HY61, RK41 P.P. PAR. 6L6	AB2 AB1	3,800 3,300	4,000, 5,000 7,500, 10,000	260	170	60	D	4⅝″	3⅞″	3⅞″	7.7	**9.20**
A-2907	P.P. 10, T20, TZ20, HY25, 46, 801, 825, 841	B	8,000	3,300, 5,000 6,800, 9,000 12,500	200	150	90	D	4⅝″	3⅞″	4⅜″	10.2	**11.95**
A-2908	P.P. RK18, T20, TZ20, HY25, RK31, 35T, 50T, 800, 801, 830B, 1623	B	7,200 12,000	3,000, 4,500 5,350, 6,250	260	220	120	D	4⅝″	3⅞″	4⅜″	10.4	**12.60**
A-3829	P.P. RK12, HY25, 35T, HY40Z, T40, TZ40, 100TL, HK354, 756, 809, 830B	B	6,900 9,000	3,300, 4,000 5,000, 6,250	250	300	175	D	4⅝″	3⅞″	5″	11.8	**13.60**

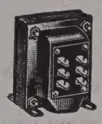
*Secondary winding used as primary.

CATHODE MODULATION TRANSFORMERS

Stancor No.	Impedance		D.C. Pri. Ma.	D.C. Sec. Ma.	Max. Audio Watts	Type Mounting	Dimensions			Weight in Carton	List Price
	Pri	Sec.					H	W	D		
A-3888	4000, 6000, C.T.	150, 250, 500, 750, 1000, 1500, 2000, 2500	50	250	25	D	3⅛″	2⅝″	3½″	3.0	**$6.10**
A-3889	4000, 6000, C.T.	150, 250, 500, 750, 1000, 1500, 2000, 2500	125	450	60	D	3⅞″	3¼″	4¼″	4.8	**8.50**

MODULATION TRANSFORMERS—LINE TO R. F. LOAD

Stancor No.	Ohms Impedance		D.C. Sec. Ma.	Max. Audio Watts	Type Mtg.	Dimensions			Weight in Carton	List Price
	Primary	Secondary Load				H	W	D		
A-3834	500, 200	4,000, 6,000, 9,500	150	30	C	4⁵⁄₁₆″	3⁹⁄₁₆″	3¾″	6.5	**$8.15**
A-3866	500, 200	5,000, 6,000, 7,000 8,000, 9,000, 10,000	150	30	D	4⁵⁄₁₆″	3⁹⁄₁₆″	3¾″	6.5	**10.00**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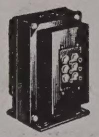
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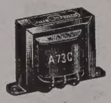
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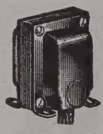
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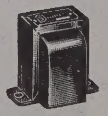
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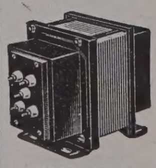
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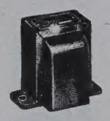
DRIVER TRANSFORMERS

TYPE "A"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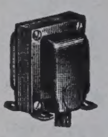
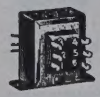

TYPE "C"

TYPE "CD"


TYPE "J"

TYPE "S"

POLY-PEDANCE DRIVER TRANSFORMERS

These most versatile Poly-Pedance transformers are tapped to give many usable ratios as Class B drivers. Ratio chart and instructions furnished with each unit.

Stancor No.	Capacity in Watts	Primary Ma. Per Side	Ratio Primary to ½ Secondary	Type Mounting	Dimensions			Weight in Carton	List Price
					H	W	D		
A-4761	15	60	1.25:1, 1.4:1, 1.6:1, 1.8:1, 2:1, 2.2:1, 2.4:1	CD	3⅛"	2⅝"	3¾"	3.0	**$8.15**
A-4762	15	60	2.6:1, 3:1, 3.2:1, 3.4:1, 4:1, 4.5:1, 5:1	CD	3⅛"	2⅝"	3¼"	2.8	**8.15**
A-4763	30	120	1.25:1, 1.5:1, 1.75:1, 2:1, 2.25:1, 3.2:1	CD	3½"	3"	4"	4.3	**10.00**
A-4764*	30	120	1.5:1, 2:1, 2.5:1, 3:1, 3.5:1	CD	3½"	3"	4"	4.3	**10.00**

*P.P. 6L6's with 16% inverse feed back.

POLY-PEDANCE LINE DRIVER TRANSFORMERS

Stancor No.	Capacity in Watts	Ratio Primary to ½ Secondary	Dimensions			Type Mounting	Weight in Carton	List Price
			H	W	D			
A-4765	15	1:0.75, 1:0.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	3⅛"	2⅝"	3½"	CD	3.0	**$7.50**
A-4766	30	1:0.75, 1:0.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	3½"	3"	3¾"	CD	4.0	**8.80**

DRIVER TRANSFORMERS

Stancor Number	From	To	Class	Impedance		Ratio Pri. to ½ Sec.	D.C. Pri Ma.	Type Mounting	Mounting Dimensions			Weight in Carton	List Price
				Pri.	½ Sec.				H	W	D		
A-4752†	P.P. or 1-45, 6F6, 2A5, 42, 6K6, 6N7, 6C5	P.P. 6K6, 2A5, 42, 6F6, 6L6, 6V6, 6Y6, 6Z7	AB	10,000	10,000 4,400 2,500	1:1 1.5:1 2:1	35	S	2¼"	2⅞"	1⅞"	1.5	**$2.50**
A-4405	1-45, 6F6, 42, 2A5, 6K6, 41	P.P. 42, 89, 2A5, 6F6, 6V6, 6Z7	B	10,000	6,400	1.24:1	40	C	3⅛"	2⅝"	2⅝"	2.7	**4.75**
A-4406	P.P. 2A3, 6A3, 45	P.P. 50T, 154, 203A, HF100, HF200, 825	B	18,500	6,250	1.71:1	95	C	3⅛"	2⅝"	2⅝"	2.6	**5.25**
A-4721	1-2A3, 6A3, 45, 46, 59, 42, 6F6, 2A5, 89, 53, 6A6, 6N7, 6C5, 37, 30 1H4	1-1J6, 19, 79 6Z7, 53, 6N7 P.P. 42, 45, 6F6 46, 49, 2A5 59, 89, 6K6 TZ20	B	10,000 22,500	2,500	2:1 3:1	30	E	2⅜"	2¾"	2⅛"	1.5	**3.60**
A-4404	P.P. 2A3, 6A3, 45, 6L6, 6V6, 6F6, 50, 42, 59 P.P. Par. 2A3 6A3, 6L6	P.P. 849 P.P. 800, 830B 203, 10, RK18, RK58, HF100, T20, TZ40, 811 P.P. 154, 812, 203A, 838, 211, 203Z, RK38, HF100, 100TL, HF200, 822, HD203A, 354, 150T	A B	14,000	3,500	2:1	90	C	3½"	2¹⁵⁄₁₆"	3⅛"	3.7	**5.25**
A-4292	1-6C5, 6J5, 30, 1H4, 49	1-1J6, 19, 79 6Z7 P.P. 30, 1H4, 49	B	10,000	1,600	2.5:1	10	A	1⅝"	2¹³⁄₁₆"	1½"	0.7	**1.85**
A-4208‡	P.P. 6C5, 6J5, 6N7, 6L5, 56, 27, 76, 55, 85, 6R7	P.P. 2A3, 2A5, 6A3, 6F6, 6L6, 6V6, 42, 45, 50, 59, 89	AB	25,000	3,200	2.79:1	15	C	3⅛"	2⅝"	2⅝"	2.5	**4.30**
A-4210	1-2A3, 6A3 45,46,59,2A5, 6F6, 42, 89, 6C5, 6N7, 76	P.P. 2A3, 6A3 46, 59 P.P. 2A5, 42, 45, 6F6, 6L6, 807	B AB	22,500	2,500	3:1	40	C	3⅛"	2⅝"	2⅝"	2.6	**4.10**
A-4701‡	P.P. 46, 89, 6C5, 6J5, 56, 37, 27, 76	P.P. 6L6, 6V6, 6Y6, 42, 6F6, 45, 2A3, 6A3	AB1	20,000	2,200	3.1:1	25	C	3⅛"	2⅝"	2⅝"	2.7	**4.40**
A-4212	P.P. 2A3, 6A3, 45, 6L6	P.P. 801, 830B 35T, 808, 838, RK52, Z120, RK57, HY40Z, 805, 828, 756, 100TL, 100TH, TZ20, TZ40 P.P. Par. 46, 59 P.P. 807	B AB	25,600	2,500	3.2:1	50	C	3⅛"	2⅝"	2⅝"	2.6	**4.40**
A-4216	1-53, 6A6, 6N7, 79, 6E6 2-53, 6A6, 6N7	1-53, 6A6, 6N7 6E6, 6N6, 89 2-53, 6A6, 6N7	B	25,000	1,000	5:1	15	E	2⅜"	2⅝"	2⅛"	1.5	**3.50**
A-4416‡	P.P. 2A3, 45, 46, 59, 6F6 2-53, 6A6, 6N7	P.P. 6L6, 6V6, P.P. Par. 46, 59 2-53, 6A6, 6N7	AB2 B	30,000	1,200	5:1	40	C	3⅛"	2⅝"	2⅝"	2.7	**4.75**
A-4702‡	1-2A3, 45, 46, 89, 2A5, 6F6, 42	P.P. 6L6, 6V6, 6F6, 45 P.P. Par. 6L6	AB2 AB1	50,000	2,000	5:1	80	C	3⅛"	2⅝"	2⅝"	2.7	**4.15**
A-4703‡	P.P. 2A3, 45, 46, 6L6, 89, 6F6, 2A5, 42	P.P. 807, HY61 P.P. Par. 6L6	AB2	10,000	325	5.6:1	95	C	3½"	2¹⁵⁄₁₆"	3⅛"	3.8	**5.35**

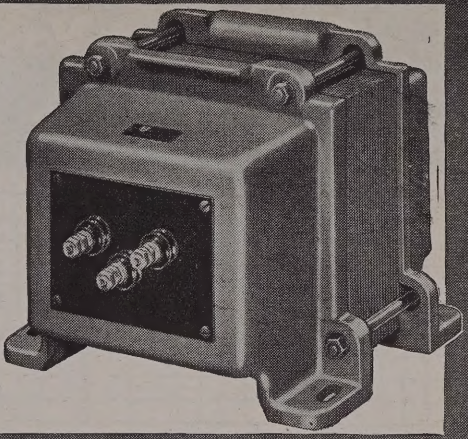
†P.P. primary ratio is 2:1. ‡Split Secondary.

PROFESSIONAL SERIES

Plate Transformers

By using an entirely new design of cast semi-steel end bells both mechanical strength and eye appeal have been added together with other features such as more effective shielding, etc. Durable Ceramic terminals are mounted on phenolic panels to assure adequate insulation. End bells are compound filled.

The primaries of the new Professional Series Plate Transformers are wound for use on either 115 or 230 volt line. Secondary voltages are balanced to center tap. Symmetrical coil design (resistive, capacitive and inductive balance) results in a more uniform D.C. output from the rectifier tubes.



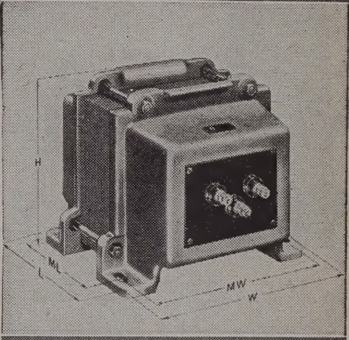
These rugged units are built to take it. All are insulated to RMA standards. Primaries designed for 50-60 cycle operation.

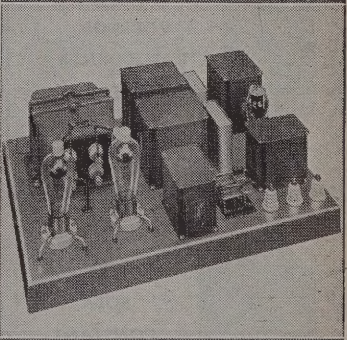
Plate Transformers

Stancor Number	Primary Volts	V.A.	Sec. A.C. Load Volts	D.C. Volts After Filter†	Current in Ma.	Type Mtg.	Wgt. in Carton	List Price
P-8500	115-230	180	510-0-510	400	250	RF	11.6	**$13.50**
P-8501	115-230	220	625-0-625 500-0-500 40 V bias tap.	500 400	250	RF	12.2	**17.50**
P-8502	115-230	410	950-0-950 750-0-750	750 600	300	Y	17.3	**32.00**
P-8503	115-230	350	1250-0-1250 535-0-535	1000 400	130 150	Y	16.8	**35.00**
P-8516	115-230	450	1250-0-1250 950-0-950	1000 750	250	Y	21.5	**32.50**
P-8504	115-230	670	1550-0-1550 1250-0-1250	1250 1000	300	Y	30.0	**42.00**
P-8505	115-230	1100	1550-0-1550 1250-0-1250	1250 1000	500	Y	40.8	**62.00**
P-8517	115-230	480	1900-0-1900	1500	175	Y	22.1	**37.50**
P-8506	115-230	820	1900-0-1900 1550-0-1550	1500 1250	300	Y	34.0	**45.00**
P-8507	115-230	1350	1900-0-1900 1550-0-1550	1500 1250	500	Y	48.5	**65.00**
P-8508	115-230	950	2200-0-2200 1900-0-1900	1750 1500	300	Y	36.0	**48.50**
P-8509	115-230	900	2500-0-2500	2000	250	Y	34.5	**47.50**
P-8510	115-230	1080	2500-0-2500 2200-0-2200	2000 1750	300	Y	38.4	**50.00**
P-8511	115-230	1280	2950-0-2950 2500-0-2500	2500 2000	300	Y	50.1	**55.00**
P-8512	115-230	1590	2200-0-2200 1900-0-1900	1750 1500	500	Y	59.6	**62.50**
P-8513	115-230	1800	2500-0-2500 2200-0-2200	2000 1750	500	Y	67.7	**80.00**
P-8514	115-230	2150	3000-0-3000 2500-0-2500	2500 2000	500	Y	70.0	**95.00**
P-8515	115-230	1950	3600-0-3600	3000	375	Y	65.0	**105.00**

†All D.C. voltages measured after choke input filter.

These prices are quoted subject to any changes required by O. P. A. regulations.





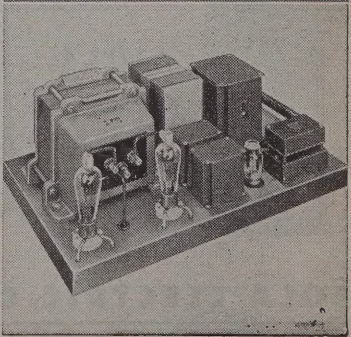
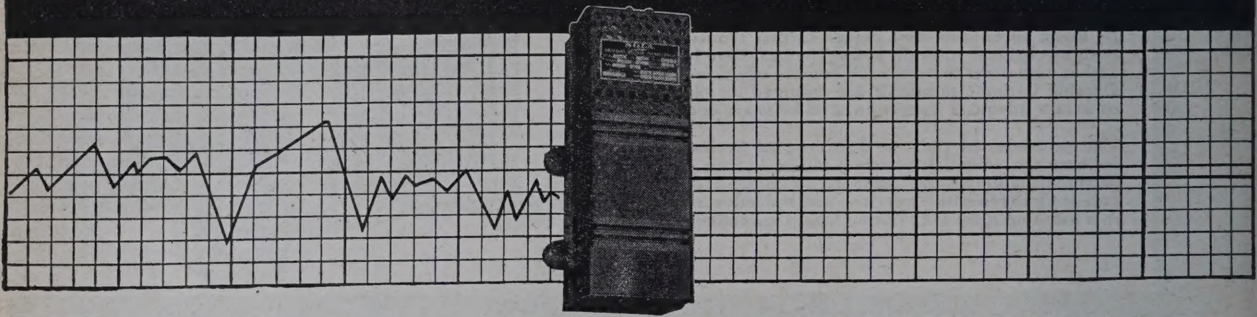


Plate Transformer Dimensions ("Y" Case)

No.	Mounting Space H	x W	x L	Mounting Centers MW	x ML	No.	Mounting Space H	x W	x L	Mounting Centers MW	x ML
P-8502	6⅜"	7¼"	10¾"	6⅛"	4"	**P-8510**	8½"	11¾"	14"	10⅛"	5¼"
P-8503	6⅜"	7¼"	10¾"	6⅛"	4½"	**P-3511**	8½"	11¾"	14"	10⅛"	5¼"
P-8504	7"	8¹⁄₁₆"	10¾"	7⁵⁄₁₆"	4½"	**P-8512**	8½"	11¾"	14½"	10⅛"	5¾"
P-8505	7"	8¹⁄₁₆"	12"	7⁵⁄₁₆"	5½"	**P-8513**	8½"	11¾"	15"	10⅛"	6¼"
P-8506	7"	8¹⁄₁₆"	11¼"	7⁵⁄₁₆"	4¾"	**P-8514**	10½"	13¼"	13"	11½"	5½"
P-8507	8½"	11¾"	14½"	10⅛"	5¾"	**P-8515**	10½"	13¼"	13½"	11½"	6"
P-8508	7"	8¹⁄₁₆"	11½"	7⁵⁄₁₆"	5"	**P-8516**	6⅜"	7¼"	10⅜"	6⅛"	4⅛"
P-8509	8½"	11¾"	14"	10⅛"	5¼"	**P-8517**	6⅜"	7¼"	11¼"	6⅛"	5"

These prices are quoted subject to any changes required by O. P. A. regulations.

SOLA Constant Voltage Transformers

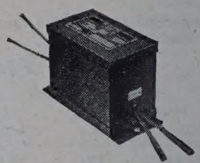


FLUCTUATING LINE VOLTAGE

CONSTANT OUTPUT VOLTAGE

Constant Voltage Transformers are designed to provide a constant output voltage which is unaffected by changes in input voltage. Stabilization is instantaneous and automatic and there are no moving parts. Constant Voltage Transformers also provide isolation between input and output circuits. Low output voltage wave distortion and small size make these transformers especially attractive for use with all types of electronic equipment.

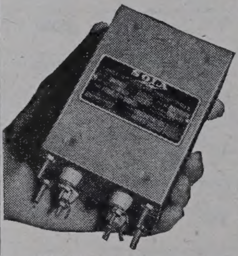
SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 3



SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 1

SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 21

FOR CHASSIS MOUNTING



TYPE 11

Output capacities up to 15 VA, with output at either 6.3 volts or 115 volts. Both types are immersion proof and capable of tropical service. Type 12 furnished with separate condenser. Prices include condenser.

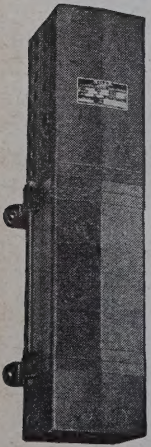
TYPE 12

SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 2

SOLA CONSTANT VOLTAGE TRANSFORMER
TYPE 22

FOR COMPLETE CATALOG INFORMATION SEE OPPOSITE PAGE →

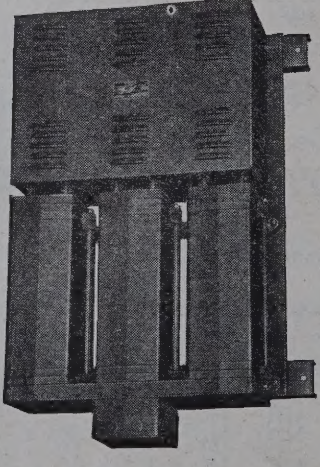
For complete operational data write for Bulletin 13CV-102

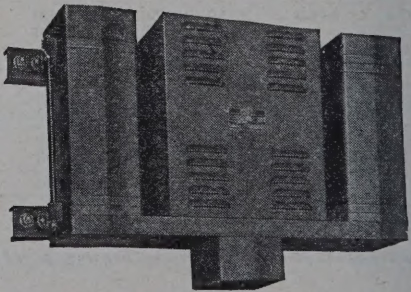


SOLA CONSTANT VOLTAGE TRANSFORMER

← TYPE 4

TYPE 6 →





SOLA CONSTANT VOLTAGE TRANSFORMERS

↑ TYPE 5

TYPE 41 →

SOLA ELECTRIC COMPANY • 2525 CLYBOURN AVENUE, CHICAGO 14, ILLINOI

SOLA Constant Voltage Transformers

ELECTRICAL AND MECHANICAL SPECIFICATIONS **60 CYCLE**

Catalog Number	Output Capacity in VA	Input Volts	Output Volts	Dimensions in Inches					Approx. Shipping Weight	List Price Each
				A	B	C	E	F		
TYPE 1										
30488	15	95-125	6.0	5 11/16	2 5/8	3 7/16	5 1/16	....	6	$ 15.00
30492	15	95-125	6.3	5 11/16	2 5/8	3 7/16	5 1/16	....	6	15.00
30498	15	95-125	115.0	5 11/16	2 5/8	3 7/16	5 1/16	....	6	15.00
TYPE 2										
30804	30	95-125	115.0	8 9/16	4 3/16	4 3/8	7 13/16	2 3/8	12	17.00
30805	60	95-125	115.0	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	24.00
30806	120	95-125	115.0	9 11/16	4 3/16	4 3/8	8 15/16	2 3/8	17	32.00
TYPE 3										
30807	250	95-125	115.0	11 5/8	6 15/16	5 5/8	3 1/4	6 1/8	30	52.00
30M807	250	190-250	115.0	11 5/8	6 15/16	5 5/8	3 1/4	6 1/8	30	52.00
30808	500	95-125	115.0	14 1/2	6 15/16	5 5/8	5	6 1/8	40	75.00
30M808	500	190-250	115.0	14 1/2	6 15/16	5 5/8	5	6 1/8	40	75.00
TYPE 4										
30809	1000	95-125	115.0	19 1/8	9 1/2	7 7/8	6 3/4	8 1/2	115	125.00
30M809	1000	190-250	115.0	19 1/8	9 1/2	7 7/8	6 3/4	8 1/2	115	125.00
30811	2000	95-125	115.0	31 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205	225.00
30M811	2000	190-250	115.0	31 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205	225.00
TYPE 5										
30M814	4000	95 /190-125 /250	115.0	21 5/8	42 3/4	9 7/16	12 1/4	40 1/4	520	380.00
30M815	5000	95 /190-125 /250	115.0	24 1/8	42 3/4	9 7/16	14 3/4	40 1/4	570	475.00
30M816	5000	95 /190-125 /250	230.0	24 1/8	42 3/4	9 7/16	14 3/4	40 1/4	570	475.00
TYPE 6										
30M817	10,000	190 /380-250 /500	115.0	48	35 1/4	9 5/8	38 7/8	33 1/4	1025	930.00
30M818	10,000	190 /380-250 /500	230.0	48	35 1/4	9 5/8	38 7/8	33 1/4	1025	930.00
TYPE 11										
30785	17	95-125	6.3	5 13/16	3 21/32	2 19/32	3	2	5 1/2	20.00
30955	17	95-125	115.0	5 13/16	3 21/32	2 19/32	3	2	5 1/2	20.00
TYPE 12										
301002	15	95-125	6.3	5 5/16	3 1/2	2 1/4	3	1 1/2	2 1/2	18.50
301003	15	95-125	115.0	5 5/16	3 1/2	2 1/4	3	1 1/2	2 1/2	18.50
TYPE 21										
30801	25	95-125	6.0	8 7/16	4 3/16	4 3/8	7 1/16	2 3/8	12	16.00
30881	25	95-125	6.3	8 7/16	4 3/16	4 3/8	7 1/16	2 3/8	12	16.00
30802	50	95-125	6.0	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	22.00
30882	50	95-125	6.3	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	22.00
TYPE 22										
30885	60	95-125	115.0	10 5/16	4 3/16	4 3/8	9 9/16	2 3/8	13	24.00
30886	120	95-125	115.0	11 3/16	4 3/16	4 3/8	10 7/16	2 3/8	19	32.00
TYPE 41										
30M813	3000	95 /190-125 /250	115.0	44 11/16	10	9 3/8	42 5/8	8 1/2	325	300.00

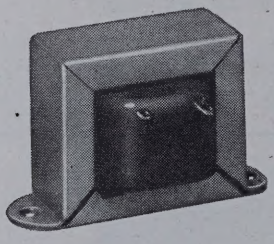
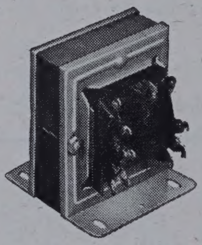
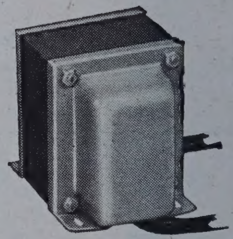
DIMENSIONS– A: OVERALL LENGTH
B: OVERALL WIDTH
C: OVERALL HEIGHT
E&F: MOUNTING DIMENSIONS

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

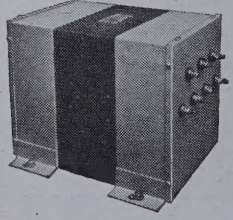
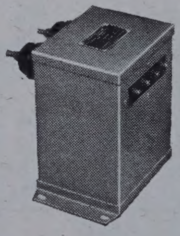
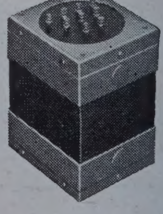
SOLA ELECTRIC COMPANY • 2525 CLYBOURN AVENUE, CHICAGO 14, ILLINOIS

THERMADOR TRANSFORMERS

"Seven Leagues Ahead"

This group of transformers covers a wide series of applications for small transmitters, amplifiers, and for original equipment and replacement in radio receivers. Duplication of specifications is available in several types of mountings to permit the best physical arrangement for each individual job. All units are attractively finished in durable baked grey enamel. High silicon content core materials, with low current and flux densities, contribute to the engineering superiority which results in the small physical size and low temperature rise of Thermador power transformers. All power transformers in this group have static shields which are grounded to the case and core.

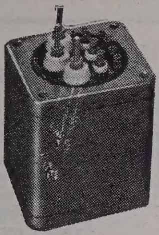




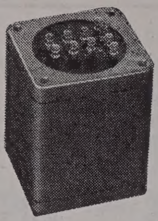
By using the new design of heavy steel end-bells, both mechanical strength and eye appeal have been added together with other features such as more effective shielding, better insulation, etc. Durable ceramic terminals are mounted on steel end panel to assure adequate insulation. End bells are filled with rubber-seal compound.

The primaries are wound for use on either 115 or 230 volt lines.

Secondary voltages are balanced to center-tap and are insulated for use in a full-wave rectifier circuit or a full-wave bridge rectifier circuit

Thermador Transformers

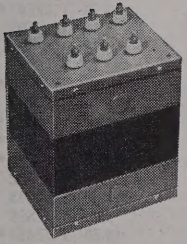


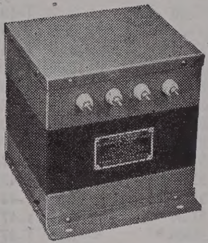


All Thermador filament transformers have center-taps. They are designed to provide accurate voltage output at rated leads with good regulation, and are insulated to stand well over twice the peak working voltage plus one thousand volts.

Thermador filament transformers are available in several convenient mounting styles which lend themselves to most applications. All potted transformers are poured with rubberseal compound.

●





The Thermador hi-fidelity series of audio equipment represents probably the highest degree of quality yet attained in audio transformers.

In addition to the absolute moisture elimination provided by "Thermatite" treatment hi-fidelity transformers have the following advantages.

P-6 Shielding—This expression refers to the six alternate layers of high-permeability and high conductivity material used as shielding on our low level transformers. This construction affords hum pick-up 96 db. below that of unshielded transformers.

Wide frequency range—transformers of the hi-fidelity series are linear within 1db. from 20 to 20,000 cycles.

Balanced winding—Thermador transformers are constructed to give best practical magnetic capacity and resistive balance. In designs where capacity balance is important, each winding is made up of two symmetrical coils. Input transformers are supplied with static shield between primary and secondary.

Low harmonic distortion: these transformers are designed to offer proper load impedance to the tubes with which they operate. Maximum primary inductance, low leakage resistance, and low flux densities in the core permit unusually low harmonic levels.

THERMATITE TREATMENT

Thermador transformers are Thermatite treated, which is a well tested and approved form of vacuum impregnation. This treatment, proved on thousands of transformers under severe climatic conditions, gives these units the resistance to constantly withstand extreme conditions of humidity and heat. This is particularly important at this time with their widened use in foreign countries where extreme temperatures and humidity exist Thermador transformer division is in complete and efficient operation and in a position to bid on priority requirements

EXPERIENCED ENGINEERS

Consider Thermador Electrical Manufacturing Company your source of assistance in engineering and production of transformers to meet your specific requirements. Included in the Thermador Transformer line are audio, auto, geophysical, bias supply, bridging, cathode modulation, coupling, driver, field supply, filament, high fidelity audio, input, midget plug-in audio, mixing and matching, modulation, output, plate, power (combined plate and filament), television, and tube-to-line transformers. Also manufactured are chokes, reactors (audio and equalizing), neon transformers and fluorescent ballasts.

THERMADOR *Electrical Manufacturing Co.*
5119 SOUTH RIVERSIDE DRIVE • LOS ANGELES 22, CALIFORNIA

"Seven Leagues Ahead"

THORDARSON

NEW PRICE LIST

Catalog prices are list, subject to trade discount and change without notice. Add 100% for 25 cycle 115 v. primary; 60% for 230 v. 60 cycle primary; 100% for 230 v. 25 cycle primary.

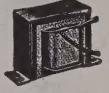
The letter separating the first two digits of the type number from the last two indica es the classification of the unit. The following legend will further explain:

A = Audio, D = Driver, K = Foundation Unit, P = Plate, S = Output or Speaker, W = Wired Amplifier.
C = Choke F = Filament, M = Modulation, R = Power, V = Voltage Changer,

Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price
T-1A50	$17.40	T-13R15 ★	$6.90	T-15C37	$15.00	T-18V03	$8.70	T-19F92	$4.20	T-67M74—	$5.40
T-1A51	17.40	T-13R16 ★	7.80	T-15C38	18.00	T-18V04	10.80	T-19F93 ★	3.00	T-67D78 ★	3.60
T-1A52	18.60	T-13R17	5.10	T-15C39	27.00	T-18V05	16.20	T-19F94 ★	3.60	T-67A91	4.20
T-1A53	18.60	T-13R18	6.00	T-15C41	33.00	T-18V06 ★	7.50	T-19F95	3.30	T-67S92	4.80
T-1A54	16.80	T-13R19 ★	3.60	T-15C45	10.80	T-18V07	16.20	T-19F96 ★	4.20	T-67R97 ★	5.10
T-1A55	17.40	T-13R20	4.50	T-15C46	15.00	T-18V10—	3.60	T-19F97 ★	2.10	T-68S06	3.00
T-1A56	18.00	T-13C26 ★	1.10	T-15C47	18.00	T-18V20	7.20	T-19F98 ★	3.30	T-68C07 ★	2.40
T-1A57	16.80	T-13C27 ★	1.30	T-15C48	27.00	T-18V21	8.40	T-19F99 ★	4.20	T-68C08	2.10
T-1A59	16.80	T-13C28 ★	1.45	T-15C50	33.00	T-18V22	10.80	T-26V04 ★	5.70	T-68R26	8.70
T-1A60	16.80	T-13C29 ★	1.90	T-15C52 ★	6.60	T-18V23	15.00	T-29C27 ★	2.10	T-69R35	8.10
T-1C62	12.00	T-13C30 ★	2.40	T-15C53	6.90	T-18V24	2.70	T-29A99 ★	2.40	T-70R20 ★	3.90
T-1C63	12.00	T-13A34 ★	1.60	T-15C54 ★	7.50	T-18V25	4.80	T-33A91 ★	2.40	T-70R21	5.40
T-2A36	21.00	T-13A35 ★	1.80	T-15C55	9.00	T-18V26	6.90	T-33S99	1.80	T-70R61 ★	5.70
T-2A66	21.60	T-13A36	2.40	T-15C56	12.00	T-18C92 ★	1.80	T-37C36	2.40	T-70R62 ★	7.50
T-2A68	22.80	T-13S37 ★	1.50	T-15R60	23.40	T-19D01	7.50	T-37R70-C—	9.00	T-70R78 ★	5.10
T-3S16	45.00	T-13S38 ★	1.80	T-15R61	21.00	T-19D02	7.50	T-43C92 ★	2.00	T-70A82	4.20
T-3S17	54.00	T-13S39	1.50	T-15R62	23.40	T-19D03	7.50	T-44C02 ★	1.80	T-70A83	4.20
T-3S21	21.60	T-13S40	1.80	T-15A66	9.60	T-19D04 ★	7.50	T-47V01 ★	9.00	T-72S58	2.00
T-3S22 ★	22.80	T-13S41 ★	3.30	T-15A67	9.60	T-19D05 ★	7.50	T-47V02 ★	13.20	T-72A59 ★	2.00
T-3S23	45.00	T-13S42 ★	1.80	T-15A68	9.60	T-19D06 ★	3.30	T-47V03	26.10	T-73M52	27.00
T-3A32	21.00	T-13S43	1.60	T-15A69	9.60	T-19M13 ★	5.70	T-47V04	42.00	T-73F60	4.80
T-5A1	12.60	T-14A29	3.00	T-15A70	9.60	T-19M14 ★	9.90	T-47C07 ★	2.00	T-74F23	6.00
T-5A2	13.20	T-14R32—	9.00	T-15A71	9.60	T-19M15	14.40	T-47A25	2.70	T-74F24 ★	10.20
T-5A3	11.40	T-14R33 ★	3.60	T-15A72	9.60	T-19M16	20.40	T-49C91	2.10	T-74R28	8.10
T-5A4	10.50	T-14R34 ★	4.20	T-15A73—	9.00	T-19M17	33.00	T-50R03—	3.90	T-74C29 ★	4.80
T-5A5	9.60	T-14R35 ★	4.50	T-15A74 ★	8.40	T-19M21—	8.40	T-50V11 ★	9.00	T-74C30 ★	1.80
T-5A7	12.00	T-14R36	5.70	T-15A75	8.70	T-19M22—	12.00	T-50F61	2.10	T-74A31	4.20
T-5A8	12.60	T-14R37	6.00	T-15D76—	10.80	T-19R30	9.60	T-52C98	2.40	T-74D32 ★	3.90
T-5A9	12.60	T-14R38	6.90	T-15D77—	10.80	T-19R31	11.40	T-53C19	1.80	T-75R47 ★	5.70
T-6A0	12.60	T-14R39 ★	3.30	T-15D78	10.80	T-19R32	15.00	T-53S81 ★	5.70	T-75C49 ★	1.80
T-6A1	12.60	T-14R40 ★	9.00	T-15D79	10.80	T-19C35 ★	4.80	T-54D63	2.70	T-75R50 ★	9.30
T-6A3	11.40	T-14M49	21.60	T-15D82	10.80	T-19C36 ★	8.40	T-55A16 ★	3.30	T-75C51 ★	6.00
T-6A4	12.00	T-14C61	1.20	T-15D83	18.00	T-19C37	15.00	T-56R01	6.90	T-75A74	3.30
T-9V30 ★	51.00	T-14C62 ★	1.20	T-15D85	9.60	T-19C38 ★	18.00	T-56R02—	5.10	T-75S75 ★	4.80
T-9V31 ★	78.00	T-14C63	1.20	T-15D86	10.80	T-19C39 ★	3.90	T-56R03	8.10	T-76S74	4.50
T-9V32 ★	120.00	T-14C64 ★	1.20	T-15S90	12.00	T-19C42 ★	4.80	T-56R05	8.10	T-78D46 ★	1.80
T-9V33 ★	210.00	T-14C70 ★	3.00	T-15S91	15.00	T-19C43 ★	8.40	T-57S01 ★	2.40	T-79F84	5.70
R-1068 ★	3.00	T-14A75	17.40	T-15S92	18.00	T-19C44	15.00	T-57S02	2.40	T-81S01 ★	1.80
T-11F50	10.80	T-14A76	17.40	T-15S93	21.00	T-19C45 ★	18.00	T-57A36	2.70	T-81C15	2.40
T-11F51	13.20	T-14S80 ★	2.40	T-15S94	24.00	T-19C46 ★	3.90	T-57A38	3.60	T-81D42 ★	3.90
T-11F52	15.90	T-14S81	1.50	T-15S96	15.00	T-19P54	7.20	T-57A39	3.00	T-81D52	3.90
T-11F53	10.20	T-14S82	1.50	T-15S97	19.20	T-19P55 ★	7.80	T-57A40	3.90	T-82V11	18.00
T-11F54	24.00	T-14S83 ★	1.50	T-15S98	12.00	T-19P56 ★	8.40	T-57A41 ★	4.20	T-82V12	24.00
T-11F55	15.00	T-14S84 ★	1.50	T-15S99	12.00	T-19P57 ★	10.20	T-57A42	4.20	T-82V13	36.00
T-11F57—	16.50	T-14S85	1.80	T-16C07 ★	2.70	T-10P58 ★	18.00	T-57C51 ★	1.80	T-82M25	51.00
T-11F58—	18.00	T-14A90 ★	3.00	T-17C00-B ★	3.30	T-19P59 ★	21.00	T-57C52	2.10	T-83D21	4.20
T-11F59	9.00	T-14A91 ★	3.00	T-17D01 ★	2.40	T-19P60 ★	25.20	T-57C53 ★	2.40	T-83M22	13.80
T-11F60	9.60	T-14A92	1.60	T-17A02 ★	3.00	T-19P61	27.00	T-57C54 ★	2.70	T-83A78 ★	2.70
T-11F61	27.00	T-14D93	2.10	T-17D03 ★	5.40	T-19P62 ★	32.10	T-58A37	2.70	T-83R82—	12.00
T-11F62	10.20	T-14A94	3.00	T-17D04 ★	5 40	T-19P63 ★	30.90	T-58A70 ★	4.50	T-83R85	15.00
T-11F63	11.40	T-15R00	15.00	T-17S10 ★	3.60	T-19P64 ★	35.70	T-58S72	4.50	T-83S87—	10.80
T-11F64	12.00	T-15R01	21.00	T-17S11 ★	5.40	T-19P65	37.20	T-60S48 ★	3.60	T-84S58	7.20
T-11M69	10.80	T-15R02	15.90	T-17S12 ★	5.40	T-19P66	49.80	T-60R49	3.60	T-84D59 ★	3.90
T-11M70	15.00	T-15R03	16 50	T-17S13 ★	7.20	T-19P67	60.00	T-61S25 ★	3.90	T-84P60	9.00
T-11M71	18.00	T-15R04	9.00	T-17S14	7.20	T-19P68	70.20	T-61S26 ★	4.20	T-84M70	12.00
T-11M74	13.20	T-15R05	15.90	T-17S15	7.80	T-19P69	18.00	T-61F85	2.70	T-86A02	2.70
T-11M75 ★	15.30	T-15R06	14.70	T-17S16	18.00	T-19P70	13.80	T-61A94 ★	3.90	T-86A03	2.70
T-11M76 ★	27.00	T-15R07	15.90	T-17S17	7.80	T-19P71	16.80	T-63R63—	3.90	T-87R85 ★	9.00
T-11M77 ★	36.00	T-15R08	19.20	T-17S18	4.50	T-19F75	2.70	T-63F99	3.90	T-89R28 ★	13.80
T-11M78 ★	72.00	T-15P11	16.80	T-17R30 ★	10.20	T-19F76	5.70	T-64F14	6.00	T-89S68	7.80
T-11K99	18.00	T-15P12	19.20	T-17R31	15.00	T-19F77	9.90	T-64M26	7.20	T-89S74	4.50
T-13R00	5.40	T-15P13	28.80	T-17R32	12.30	T-19F78	6.90	T-64F33	7.20	T-89S75	4.80
T-13R01 ★	4.20	T-15P14	36.00	T-17R33	20.40	T-19F79	8.10	T-64F38	7.20	T-90A02—	20.40
T-13R02 ★	4.50	T-15P15	42.00	T-17R34	6.30	T-19F80 ★	1.60	T-65A73	3.60	T-90A03—	20.40
T-13R03 ★	5.10	T-15P16	63.00	T-17R35	4.20	T-19F81 ★	1.80	T-65S94	4.80	T-90A05—	20.40
T-13R04	6.00	T-15P17	45.00	T-17R36	4.80	T-19F82	6.00	T-67C46 ★	2.10	T-90A06—	20.40
T-13R05 ★	6 00	T-15P18	84.00	T-17R37	5.70	T-19F83 ★	2.70	T-67D47	3.00	T-90S07—	21.60
T-13R06 ★	6.90	T-15P19 ★	81.00	T-17R38	6.30	T-19F84	3.30	T-67S48	4.20	T-90C09—	15.00
T-13R07	7.20	T-15P20	120.00	T-17C40	6.60	T-19F85 ★	4.80	T-67C49 ★	3.30	T-90A10—	20.40
T-13R08	6.00	T-15P21 ★	114.00	T-17A42	12.00	T-19F86	6.60	T-67D50	3.30	T-90S12—	20.40
T-13R09	7.50	T-15C30	6.00	T-17A43	12.00	T-19F87	7.50	T-67S51 ★	4.20	T-92F20—	6.30
T-13R11 ★	3.90	T-15C31	7.20	T-17S57	2.70	T-19F88 ★	2.40	T-67S52	4.80	T-92R21 ★	9.00
T-13R12 ★	4.50	T-15C32	9.60	T-17M59 ★	3.30	T-19F89	2.70	T-67S54 ★	4.80	T-92R33	5.40
T-13R13 ★	5.40	T-15C34	10.80	T-18V00 ★	12.60	T-19F90 ★	3.60	T-67M69	3.30	T-92R53	6.90
T-13R14 ★	6.00	T-15C36	10.80	T-18V01 ★	23.40	T-19F91	3.00	T-67M73—	4.20	T-93C20	3.30

AUDIO (A) INTERSTAGE TRANSFORMERS

For coupling the plate or plates of an amplifier stage to the grid or grids of the next stage where grid current is not drawn. C. H. T. interstage audio transformers have hum-bucking coil construction and balanced windings. Frequency response of C.H.T. types using parallel feed in the primary winding, is flat within ± 1½ db from 60 to 8,000 c.p.s. Compound filled cases fully protect the coils from adverse climatic conditions.


3B

Single Plate To Single Grid

Type No.	Classification	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A.	Turns Ratio	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13A34	Receiver (midget)	10,000	90,000	8	3:1	3B	2 3/8		2 13/16	1 5/8	1 5/8	3/4
T-29A99	Receiver	10,000	90,000	8	3:1	2B	2 3/8		2 7/8	2 1/8	2 3/8	1 1/4
T-57A36						2F	2 3/8		2 7/8	2 1/8	2 3/8	1 1/2
T-57A38	Amplifier	10,000	90,000	8	3:1	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-15A73-	C.H.T.	10000/2500	40000/10000	10§	2:1	3U	2 3/8	2 1/2	3	3	3 5/16	2 1/2

Maximum Signal Level + 15 db §Parallel feed recommended.

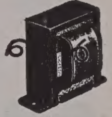
Single Plate To Push-Pull Grids

Type No.	Classification	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A.	Turns Ratio	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-14A92	Receiver (midget)	10,000	90,000	8	3:1	3B	2		2 3/8	1 5/8	1 3/8	1/2
T-13A35	Receiver (midget)	10,000	90,000	8	3:1	3B	2 3/8		2 13/16	1 5/8	1 5/8	3/4
T-33A91	Receiver	10,000	90,000	8	3:1	2B	2 3/8		2 7/8	2	2 3/8	1 1/4
T-57A39						2F	2 3/8		2 7/8	2 1/8	2 3/8	1 1/2
T-57A40	Amplifier	10,000	90,000	8	3:1	2B	2 15/16		3 3/8	2 1/8	3	2
T-57A41						2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-74A31	Amplifier	10,000	10,000	8	1:1	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-57A42	Receiver (large)	10,000	90,000	8	3:1	2B	2 15/16		3 3/8	2 1/8	3	2

For coupling screen grid or power detector (Clarion AC-60)

Type No.	Classification	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A.	Turns Ratio	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15A74	C.H.T.	10,000/2,500	40,000/10,000	10§	2:1	3U	2 3/8	2 1/2	3	3	3 5/16	2 1/2

Max. signal level + 15 db §Parallel feed recommended.


2B

Push-Pull Plates To Push-Pull Grids

Type No.	Classification	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A.	Turns Ratio	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13A36	Receiver (midget)	20,000	20,000	8‡	1:1	3B	2 15/16		3	1 3/4	2	1
T-58A70	Amplifier—Split Secondary	20,000	45,000	10‡	1.5:1	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-15A75	C.H.T.	20,000/5,000	45,000/11,250	10‡	1.5:1	3U	2 3/8	2 1/2	3	3	3 5/16	2 1/2

Maximum signal level + 15 db

Universal Interstage Replacement Transformer

Will couple single plate to single grid, single plate to push-pull grids or push-pull plates to push-pull grids. Has split secondary.

Type No.	Classification	Ohms Impedance	Pri. M.A.	Turns Ratio	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-17A02	Receiver	Universal	10	3:1	2F	2 3/8		2 7/8	2 1/8	2 3/8	1 1/2

2F

Low Impedance Source (Microphone, Line or Mixer) to Grid

Type No.	Classification	Ohms Impedance Pri.	Ohms Impedance Sec.	Turns Ratio	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-65A73	DB mike to grid	200/50	100,000	1:22.2	2F	2 15/16		3 3/8	2 1/2	3	2
T-58A37	DB mike to grid	200/50	100,000	1:22.2	2F	2 3/8		2 3/4	2 1/8	2 3/8	1 1/2
T-83A78	Single button mike to single or P-P grids	100	400,000 Ct.	1:64	2F	2 3/8		2 7/8	1 7/8	2 3/8	1 1/4
T-86A02					2B	2 3/8		2 7/8	1 3/4	2 3/8	1
T-55A16	Dyn. mike, line or mixer to single or P-P grids	200/50	100,000 Ct.	1:22.3	2F	2 3/8		2 7/8	2 1/8	2 3/8	1 1/2
T-61A94	Line to single or P-P Cl.A grids	500/125	100,000 Ct.	1:14.1	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-72A59	Plate and Single Button microphone to grid	5,000 200	100,000	1:3.25 1:35	2B	2 1/8		2 5/8	1 5/8	2	3/4
T-14A94	Voice Coil to grid	4-8	100,000	1:112	2B	2 3/8		2 7/8	2 1/16	2 3/8	1
T-15A66	C.H.T. Low Impedance to grid	500†/333/250/ 200†/125/50	60,000/15,000 Single Grid	1:10.95	3U	2 3/8	2 1/2	3	3	3 5/16	2 1/4
T-15A67	C.H.T. Low Impedance to P-P grids	500†/333/250/ 200†/125/50	120,000/30,000 P-P Grids	1:15.5	3U	2 3/8	2 1/2	3	3	3 5/16	2 1/4
T-15A68	C.H.T. Low Impedance to single grid	60†/38/30/22†/ 15/10/5.5/2.5	60,000/15,000 Single Grid	1:31.6	3U	2 3/8	2 1/2	3	3	3 5/16	2 1/2
T-17A42	C. H. T. MAGNETICALLY SHIELDED	500†/333/250/ 200†/125/50	50,000 Single Grid	1:10	3U	2 3/8	1 7/8	3	2 7/16	3 1/8	1 1/4

Min. level—20 db.

3L

Microphone or Line to Mixer or Line

Type No.	Classification	Ohms Impedance Pri.	Ohms Impedance Sec.	Turns Ratio	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-70A83	Crystal mike to line or mixer	100,000	200/50	1:22.4	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-15A69	C.H.T. Low Impedance to mixer or line	500†/333/250/ 200†/125/50	500†/333/250/ 200†/125/50	1:1	3U	2 3/8	2 1/2	3	3	3 5/16	2
T-15A70	C.H.T. Dyn. mike to mixer or line	60†/38/30/22/ 15†/10/5.5/2.5	500†/333/250/ 200†/125/50	1:2.88	3U	2 3/8	2 1/2	3	3	3 5/16	2

Tube to Line or Mixer (Low Level)

Type No.	Classification	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-14A90	Sgl. or P-P Plates to line or mixer	20,000 Ct.	500/125	8*	2F	2 3/8		2 7/8	2 1/8	2 3/8	1 1/2
T-14A91			(200/50—for T-14A91 only.)								
T-72A59	Plate and sgl. button mike to grid	5,000 and 200	100,000	10*	2B	2 1/8		2 5/16	1 5/8	2	3/4
T-15A71	C.H.T. single plate to line or mixer.	20,000/5,000 Single Plate	500†/333/250/ 200†/125/50	8*	3U	2 3/8	2 1/2	3	3	3 5/16	1 3/4
T-15A72	C.H.T. P-P plates to line or mixer.	20,000/5,000 P-P Plates	500†/333/250/ 200†/125/50	0*	3U	2 3/8	2 1/2	3	3	3 5/16	1 3/4
T-17A43	C.H.T. MAGNETICALLY SHIELDED	10,000 to 15,000	500†/333/250/ 200†/125/50	0*	3U	2 3/8	1 7/8	3	2 7/16	3 1/8	1 1/4

* Indicates Primary M.A. † Balanced center tap. ‡ Each side of C. T.

3U

We can supply all Thordarson products. Ask for complete Thordarson catalog.

CHOKES AND REACTORS (C)

Parallel Feed Audio Reactors

2F

For supplying plate current to a vacuum tube where it is desirable to isolate plate current from the transformer primary or where the voltage drop caused by a resistor load is objectionable.

Type No.	Application	Typical Tubes	Induct. Hen.	Cur. M.A.	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-37C36	Plate Impedance	56-30-76-6C5-55-85, etc.	300	5	6470	1600	2F	2⅜		2⅞	2⅛	2⅜	1½
T-67C46							2B	2⅜		2⅞	2⅛	2⅜	1¼
T-52C98	Plate Impedance for screen Grid detector or as grid impedance	24-57-56-76-6C5-6F5-6J7	700	.5	6150	1600	2F	2⅜		2⅞	1⅞	2⅜	1¼
T-29C27			500				2B	2⅜		2⅞	1¾	2⅜	1
T-68C08	Plate Impedance or Filter	45-46-10, etc.	22	35	405	1600	2F	2⅜		2¾	2⅛	2⅜	1½
T-18C92						1100	3B	2⅞		3 5/16	2⅛	2	1½

2B

Tuned Audio Circuit Reactors

Type No.	Application	Induct. Hen.	Cur. M.A.	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-81C15	Tuned Audio Circuits	.75	.5	30		2B	2⅛		2 5/16	1⅝	2	¾
T-93C20	Tuned Audio Circuits	250	.5	6400		2B	2⅜		2⅞	2⅛	2⅜	1¼
T-74C30	Tuned Audio Circuits or Filter	42	15	2100		3B	2 11/16		3⅛	1¾	2	1

DUAL TONE CONTROL COMPONENTS

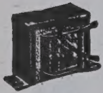
3L

Type No.	Application	Induct. Hen.	Cur. M.A.	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-14C70	Tone Control, hum-bucking type	22	0	220		3Y	1⅝		1⅝	1⅝	2¼	½
R-1068	Dual tone control potentiometer											

FILTER CHOKES

Thordarson filter reactors are rated in henries under actual working conditions. It is well known that as the D.C. current in a choke increases, there is a corresponding decrease in inductance. In selecting a filter choke from this listing, full assurance may be had that inductance rating has been measured under full operating load conditions.

Replacement Filter Chokes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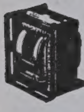
Type No.	Inductance At Zero D.C.	Inductance At Rated D.C.	Current Rating M.A.	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13C26	21	8	40	530	1600	3B	2		2⅜	1⅝	1⅜	½
T-13C27	22	10	40	475	1600	3B	2⅜		2 5/16	1⅝	1⅝	¾
T-13C28	20	10	65	460	1600	3B	2 11/16		3	1¾	2	1
T-43C92	24	10	75	260	1600	2C	1 5/16	1½	2⅛	1 15/16	2⅜	1¼
T-47C07	20	12	75	410	1600	3B	3⅛		3⅝	2	2¼	1¼
T-44C02	31	12	80	405	1600	3B	2⅞		3 5/16	2	2	1¼
T-57C51	15	6	80	138	1600	2B	2⅜		2⅞	2⅛	2⅜	1¼
T-13C29	20	9	85	250	1600	3B	2¾		3 5/16	2⅛	2	1½
T-68C07	32	15	85	375	1600	2B	2 11/16		3⅜	2½	3	2
T-57C53	27	10	110	200	1600	2B	2 11/16		3⅜	2½	3	2¼
T-75C49	22	8	120	290	1600	3B	2¾		3 5/16	2⅛	2	1½
T-53C19						2B	2⅜		2⅞	2⅛	2⅜	1½
T-13C30	25	8	150	200	1600	2B	2 11/16		3⅜	2⅛	3	2¼


2C

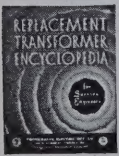
Filter Chokes for Replacement in AC-DC Receivers

Type No.	Inductance At Zero D.C.	Inductance At Rated D.C.	Current Rating M.A.	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-14C61	14	7	55	200	1600	3B	2⅜		2 5/16	1⅝	1⅝	¾
T-14C62	16	8	55	250	1600	3B	2⅜		2 5/16	1⅝	1⅝	¾
T-14C63	19	8	55	300	1600	3B	2⅜		2 5/16	1⅝	1⅝	¾
T-14C64	21	10	55	350	1600	3B	2⅜		2 5/16	1⅝	1⅝	¾

2G

Filter Chokes for Amplifiers and Small Transmitters

Type No.	Inductance At Zero D.C.	Inductance At Rated D.C.	Current Rating M.A.	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-57C52	15	5	80	138	1600	2F	2⅜		2⅞	2⅛	2⅜	1½
T-16C07	32	15	85	375	1600	2F	2 11/16		3⅜	2½	3	2¼
T-57C54	27	10	110	200	1600	2F	2 11/16		3⅜	2½	3	2¼
T-49C91	12	4	120	160	1600	2F	2⅜		2⅞	1⅞	2⅜	1¼
T-17C00-B	28	12	150	231	1600	2F	3⅜		3 13/16	3	3½	3¾
T-74C29	29	15	150	200	2000	2G	2 11/16	2 9/16	3⅜	3⅜	4⅝	5¼
T-67C49	12	5	200	80	1600	2F	3 11/32		3 13/16	3 1/16	3½	3¾
T-75C51	24	13	250	121	1600	2G	3	2 11/16	3¾	3 13/16	4 13/16	8
T-15C52		30 Parallel 120 Series	35 17	675 2700	1600	3U	2⅜	2½	3	3	3 5/16	3
T-15C53		12 Parallel 50 Series	100 50	272 1090	1600	3U	2⅜	2½	3	3	3 5/16	3¼
T-15C54		8 Parallel 32 Series	150 75	184 735	1600	3U	2⅜	2¾	3	3⅜	4 5/16	3½
T-15C55		2 Parallel 8 Series	500 250	32 130	1600	3U	3⅝	3⅛	4 5/16	3¾	4 13/16	7½



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PRICES LISTED ON PAGE J-22

Chokes (C) — Driver (D) Transformers

THORDARSON

TRANSMITTER INPUT AND FILTER CHOKES

Matched input and smoothing chokes for amateur, amplifier or experimental applications. Inductance values are measured under full load conditions and adequate insulation is provided for recommended service.

"19" SERIES TRANSMITTER CHOKES

Type No.	Current D.C. M.A.	Inductance Henries	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
Input Chokes											
T-19C39	150	5-20	215	3000	2F	3 3/8		3 15/16	3 3/32	3 1/2	3 3/4
T-19C35	200	5-20	130	3000	2D	3 1/4	2 1/16	3 3/4	3 3/8	4	5 1/2
T-19C36	300	5-20	105	5000	2D	2 3/4	3 1/16	3 15/16	4 7/8	4 5/8	10 3/4
T-19C37	400	5-20	90	5000	2J	3 1/4	3 7/8	4 1/4	5 3/8	6	19 1/2
T-19C38	500	5-20	75	5000	2J	3 7/8	3 3/4	5	5 1/2	6 5/8	25 1/4
Smoothing Chokes											
T-19C46	150	12	215	3000	2F	3 3/8		3 15/16	3 3/32	3 1/2	3 3/4
T-19C42	200	12	130	3000	2D	3 1/4	2 1/16	3 3/4	3 3/8	4	5 1/2
T-19C43	300	12	105	5000	2D	2 3/4	3 1/16	3 15/16	4 7/8	4 5/8	10 3/4
T-19C44	400	12	90	5000	2J	3 1/4	3 7/8	4 1/4	5 3/8	6	19 3/4
T-19C45	500	12	75	5000	2J	3 7/8	3 3/4	5	5 1/2	6 5/8	25 1/4

C.H.T. TRANSMITTER CHOKES

Conservatively designed for continuous and quiet operation. Cases are compound filled for complete coil protection.

Type No.	Current D.C. M.A.	Inductance Henries	D.C. Res. Ohms	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
Input Chokes											
T-15C36	200-20	5-25	105	4,000	3U	3 5/8	3 7/16	4 5/16	4 1/8	5 7/16	10
T-15C37	300-30	5-25	78	4,000	3U	4 9/16	4 3/32	5 3/8	4 15/16	6 3/8	22
T-15C38	400-30	5-25	95	4,000	3U	4 9/16	4 3/4	5 3/8	5 9/16	6 3/8	24
T-15C39	500-30	5-25	86	10,000	3U	6 5/16	5 7/16	7 5/16	6 7/16	8	38 1/2
T-15C41	650-50	5-25	46	10,000	3U	6 5/16	5 7/16	7 5/16	6 7/16	8	51
Smoothing Chokes											
T-15C45	200	12	105	4,000	3U	3 5/8	3 7/16	4 5/16	4 1/8	5 7/16	10
T-15C46	300	12	78	4,000	3U	4 9/16	4 3/32	5 3/8	4 15/16	6 3/8	22
T-15C47	400	12	95	4,000	3U	4 9/16	4 3/4	5 3/8	5 1/2	6 3/8	24
T-15C48	500	12	86	10,000	3U	6 5/16	5 7/16	7 5/16	6 7/16	8	38 1/2
T-15C50	650	12	46	10,000	3U	6 5/16	5 7/16	7 5/16	6 7/16	8	51

DRIVER (D) TRANSFORMERS

For coupling the plate or plates of an amplifier stage to the grids of an amplifier stage in which grid current is drawn during a part of the audio cycle.

DRIVER TRANSFORMERS FOR SPECIFIC APPLICATIONS

These driver transformers have the correct primary to secondary ratio for the tubes specified, which assures good regulation and minimum driver distortion on the positive grid peaks. The first three types are specifically designed for replacement requirements.

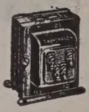
Type No.	List Price	Driver Tubes	Output Tubes	Class	Ratio Pri. to ½ Sec.	Pri. M.A.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-78D46		1-30	1-1J6G, 19 2-30	B B	2.4:1	7	2B	2 1/8		2 9/16	1 5/8	2	3/4
T-17D01		1-6F6 Triode 1-42 Triode, 1-2A5 Triode	2-6F6, 6L6, etc.	AB	1.7:1 1.5:1, 1.3:1	31	3B	2 7/8		3 3/16	2 1/8	2	1 1/2
T-14D93		1-76 Triode	1-6A6, 6N7	B	4:1	8	3B	2 3/8		2 15/16	1 5/8	1 5/8	3/4
T-19D06		1-6A6, 1-6N7, 1-6C5	1-6A6, 6N7	B	5:1,4:1,3:1,2.5:1	10	2F	2 3/8		2 7/8	2 1/8	2 3/8	1 1/2
T-54D63		1-30, 1-49, 1-6C5	1-1J6G, 19, 2-49, 2-6V6 B,	AB2	2.4:1	7	2F	2 3/8		2 7/8	1 7/8	2 3/8	1 1/4
T-67D47		1-6N7, 6A6, 53	1-6N7, 6A6, 53	B	5.25:1	10	2F	2 3/8		2 3/4	2 1/8	2 3/8	1 1/2
T-81D52		1-6C5, 76 1-56	2-6F6 Triode 2-42, 2A5 Triode	AB AB	1.82:1 1.67:1	8	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-84D59*		2-6C5, 6N7 2-6A6, 53	2-6L6, 6V6 2-6N7, 6A6, 53	AB2 B	5:1	10	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-74D32		2-6C5, 76, 56	2-6F6, 42, 2A5 4-2A3, 6B4G	AB2 AB	3:1	10	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-81D42		1-6F6 Triode 1-42 Triode 1-2A5 Triode	2-6F6 Triode 2-42 or 2-2A5 Pentode	AB2 AB2 AB2	1.7:1 1.5:1 1.3:1	31	2F	2 15/16		3 3/8	2 1/2	3	2 1/4
T-17D03*		1-6F6 Triode	2-6L6	AB2	1.4:1	40	2F	3 3/8		3 15/16	3 1/8	3 1/2	3 1/2
T-17D04*		2-6F6	4-6L6	AB2	2.6:1	32	2F	3 3/8		3 15/16	3 1/8	3 1/2	3 1/2
T-67D78		1-46, 59, 6F6, 42, 2A5 Triode	2-46, 59 2-6L6	B AB2	2.2:1	32	2F	2 15/16		3 3/8	2 1/2	3	2 1/4

*Split secondary as required for inverse feedback and separate power tube bias.

Line-to-Grid Driver Transformer (High Level)

Type No.	List Price	Driver Tubes	Output Tubes	Class	Ratio Pri. to ½ Sec.	Pri. M.A.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-83D21		Line 500 ohms	2-6L6, 50 12,500/5,100 Ohms	AB	1:3.2, 1:5		2F	2 15/16		3 3/8	2 1/2	3	2 1/4

3L


2D

2J

2F

2B

3B

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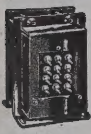
Driver (D) — Filament (F) Transformers

4D

3H

2B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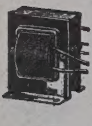
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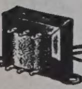
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2G

UNIVERSAL AND MULTI-MATCH DRIVER (D) TRANSFORMERS

Versatility of application reduces to a minimum transformer obsolescence which is a costly problem to the amateur in these days of rapid tube development. Through the use of five ratios on each transformer, these transformers will handle all driver requirements usually encountered in amateur transmitter circuits.

Universal Driver Transformers "19" Series

Type No.	Cap. Watts	Max. Pri. M.A. Per Side	Ratio Pri. to ½ Sec.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-19D01	15	60	1:1, 1.2:1, 1.4:1, 1.6:1, 1.8:1	4D	3⅜		3 11/16	3⅜	3½	3½
T-19D02	15	60	2:1, 2.2:1, 2.4:1, 2.6:1, 2.8:1	4D	3⅜		3 11/16	3⅜	3½	3½
T-19D03	15	60	3:1, 3.2:1, 3.4:1, 3.6:1, 3.8:1	4D	3⅜		3 11/16	3⅜	3½	3½
T-19D04	15	60	4:1, 4.5:1, 5:1, 5.5:1, 6:1	4D	3⅜		3 11/16	3⅜	3½	3½
T-19D05	15	Primary for 500 ohm line	1:3.15, 1:2.75, 1:2.5, 1:2.25, 1:2, 1:1.75, 1:1.4, 1:1.25, 1:.85, 1:.75	4D	3⅜		3 11/16	3⅜	3½	3½

C.H.T. Multi-Match Driver Transformers

Feature Convenient Switchboard Plug-In Terminal Board and Compound Filled Cases

Type No.	Cap. Watts	Max. Pri. M.A. Per Side	Ratio Pri. to ½ Sec.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15D78*	15	60	3:1, 3.2:1, 3.4:1, 3.6:1, 3.8:1	4U	3⅝	3 11/16	4 5/16	4⅜	4¾	6
T-15D79*	15	60	4:1, 4.5:1, 5:1, 5.5:1, 6:1	4U	3⅝	3 11/16	4 5/16	4⅜	4¾	6
T-15D82	15	Primary for 500 ohm line	1:3.15, 1:2.75, 1:2.5, 1:2.25, 1:2, 1:1.75, 1:1.4, 1:1.25, 1:.85, 1:.75	4U	3⅝	3 11/16	4 5/16	4⅜	4¾	5¾
T-15D83	30	Primary for 500 ohm line	1:3.15, 1:2.75, 1:2.5, 1:2.25, 1:2, 1:1.75, 1:1.4, 1:1.25, 1:.85, 1:.75	4U	3⅝	3 11/16	4 5/16	4⅜	4¾	8½

*P.P. 45 or 2A3, 6B4G.

FILAMENT (F) TRANSFORMERS

The essentials of improved voltage regulation and minimum heat rise have been given prime consideration in the design of these units. Ratings given are for continuous operation at full load.

Single Secondary

Type No.	Primary Volts	Secondary Volts	Sec. Amps.	Pri. V.A.	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-50F61	115	2.5 Ct.	3.5	10	1600	2B	2⅜		2⅞	1¾	2⅜	1
T-19F88	115	2.5 Ct.	5.25	15	1600	2B	2⅜		2⅞	2⅛	2⅜	1¼
T-19F75	115	2.5 Ct.	5	12.5	7500	2B	2 15/16		3⅜	2⅛	3	2
T-19F89	115	2.5 Ct.	10	25	1600	2B	2 15/16		3⅜	2⅛	3	2
T-19F90	115	2.5 Ct.	10	25	7500	3C	2	1¾	2 9/16	2¼	3¼	2¼
T-64F33	105/110/115	2.5 Ct.	10	25	7500	2N	3¼	2 1/16	3¾	3¼	4	4½
T-19F82	115	2.5 Ct.	15	45	10000	3C	3¼	1¾	3¾	2 7/16	4	4
T-63F99	115	5 Ct.	4	20	1600	2D	2⅛	1 9/16	2 7/16	3	3⅛	2¼
T-19F83	115	5 Ct.	5	30	1600	2B	2 15/16		3⅜	2⅛	3	2
T-19F84	115	5 Ct.	8	45	1600	3C	2	1¾	2 9/16	2¼	3¼	2¾
T-19F85	115	5 Ct.	13	75	1600	3C	3¼	1¾	3¾	2 7/16	4	4
T-19F86	115	5 Ct.	21	120	1600	3C	3¼	2 7/16	3¾	2¾	4	4½
T-74F23	105/110/115	5 Ct.	13	75	1600	2D	3¼	1⅞	3¾	3¼	4	4¼
T-74F24	105/110/115	5 Ct.	21	125	1600	2D	2¾	1 15/16	3¾	3 11/16	4⅝	5¼
T-19F91	115	5.25 Ct.	4	25	1600	3C	2	1¾	2 9/16	2¼	3¼	2¼
T-19F92	115	5.25 Ct.	13	75	1600	3C	3¼	1¾	3¾	2 7/16	4	4
T-19F80	115	6.3 Ct.	1	7	1600	2B	2		2 5/16	1⅝	2	⅝
T-19F81	115	6.3 Ct.	2	14	1600	2B	2⅜		2⅞	1¾	2⅜	¾
T-19F97	115	6.3 Ct.	3	21	1600	2B	2⅜		2⅞	2⅛	2⅜	1½
T-61F85	115	6.3, 5, 2.5	2.5	18	1600	3E	3⅛		3⅝	2⅜	2¼	1½
T-73F60	105/110/115	6.3 Ct.	5	36	1600	2D	2⅛	1¾	2⅞	2 13/16	3 11/16	3¼
T-19F98	115	6.3 Ct.	6	47	1600	3C	2	1⅞	2 9/16	2⅜	3¼	2¾
T-19F99	115	6.3 Ct.	10	73	1600	3C	3¼	1¾	3¾	2 7/16	4	4
T-19F93	115	7.5 Ct.	4	34	1600	3C	2	1¾	2 9/16	2¼	3¼	2¼
T-19F94	115	7.5 Ct.	8	67	1600	3C	2¼	2¼	3	2⅞	3¾	4
T-19F95	115	10 Ct.	4	48	1600	3C	2	1¾	2 9/16	2¼	3¼	2¾
T-19F96	115	10 Ct.	8	92	1600	3C	2¼	2¼	2 11/16	2⅞	3¾	4
T-64F14	105/110/115	10 Ct.	8	90	1600	2D	3¼	2	3¾	3⅜	4	5
T-19F87	115	10 Ct.	12	140	1600	3C	3¼	2 11/16	3¾	3 9/16	4	6¾

Multiple Secondaries

Type No.	Primary Volts	Secondary Volts	Sec. Amps.	Pri. V.A.	R.M.S. Test Volts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-19F76	115	Sec. 1-5 V. Sec. 2-7.5/6.3/5	3 6	67	1600 1600	2G	2 11/16	2 5/16	3⅜	3⅛	4⅝	4¾
T-19F77	115	Sec. 1-5 V. Sec. 2-2.5 V. Ct. Sec. 3-10/7.5/6.3/5	3 10 8	133	1600 7500 1600	2G	3	2⅞	3¾	3⅝	4 11/16	7
T-19F78	115	Sec. 1-2.5 V. Ct. Sec. 2-5 V.	10 3	45	7500 1600	2G	2 11/16	2 5/16	3⅜	3⅜	4⅝	5
T-19F79	115	Sec. 1-6.3 V. Ct. Sec. 2-10/7.5/6.3/5	3 10	133	1600 1600	2G	2 11/16	2 15/16	3⅜	3⅝	4⅝	6
T-79F84	115	Sec. 1-2.5 V. Ct. Sec. 2-5 V.-Ct. Sec. 3-6.3 V. Ct.	3.5 3 3	48	1600 1600 1600	2G	2 11/16	2 5/16	3 5/16	3⅛	4⅝	4¾

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PRICES LISTED ON PAGE J-22

Modulation (M) — Plate (P) Transformers

MODULATION TRANSFORMERS FOR SPECIFIC APPLICATIONS

To couple the plate or plates of an audio output stage to a Class C R.F. load.

Type No.	Tube Type	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Max. D.C. Sec. M.A.	Max. Audio Pwr. Watts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-17M59	1-6A6, 6N7 or 53	B	10,000	3,000 3,750/4,500	100	10	2F	2 15/16		3 3/8	2 1/2	3	2
T-64M26	2-46 or 59 2-250	B AB	5,800	5,000 10,000	100	40	2D	3 1/4	2 1/16	3 3/4	3 3/8	4	5
T-84M70	2-6L6 2-35T 4-210	AB B B	3,800	2,500 5,000 7,500	250 200 150	75	2D	2 3/4	2 15/16	3 3/4	4 11/16	4 5/8	10
T-14M49	2-TZ-40	B	6,900	2,850 4,500 6,500	350 300 235	175	2Q	6 3/4	3 3/16	7 1/2	5 5/8	6 3/8	20

"19" SERIES UNIVERSAL MODULATION TRANSFORMERS

Type No.	Capacity Watts	Pri. M.A. Each Side	Secondary M.A. Series	Secondary M.A. Parallel	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-19M13	15	50	50	100	4D	2 15/16		3 3/8	2 7/16	3	2
T-19M14	30	75	75	150	2N	3 1/4	1 13/16	3 3/4	3 1/8	4	4 1/2
T-19M15	60	125	125	250	2N	3 1/4	2 9/16	3 3/4	3 3/4	4	6 1/2
T-19M16	100	175	175	350	2N	3 1/4	2 3/4	4 1/4	4 1/4	6 1/16	12 1/2
T-19M17	250	225	225	450	2Q	7 3/4	3 3/16	8 1/2	5 3/4	6 7/8	30 3/4

C. H. T. MULTI-MATCH MODULATION TRANSFORMERS

A premium feature of this group is the exclusive Thordarson Switchboard Plug-in terminal board, enabling quick and accurate matching of tube loads without soldering.

T-11M74	40	100	80	160	4U	3 5/8	3 7/32	4 5/16	4 3/8	4 3/4	7 3/4
T-11M75	75	145	145	290	4U	3 5/8	3 7/32	4 5/16	4 3/8	4 3/4	9
T-11M76	125	210	160	320	4U	4 9/16	4 3/4	5 3/8	5 9/16	6 3/8	18
T-11M77	300	250	250	500	4U	5 3/8	6 1/8	6 3/16	7 5/8	7 7/16	30
T-11M78	500	320	320	640	3P	3 1/16	10 3/8	5 3/8	13 1/4	6 7/8	54

PLATE SUPPLY (P) TRANSFORMERS

While ordinarily used to supply the plate voltage for amateur transmitters, there are additional applications requiring relatively high voltages in which Thordarson plate transformers may be used to good advantage. Thordarson plate transformers are rated in D.C. voltages from a two section filter which includes the voltage drop through the rectifier tubes. Designed especially for Amateur transmitting or experimental equipment. Electrostatic shielding is provided between primary and secondary windings.

Type No.	Primary Volts	Sec. A.C. Load Volts	D.C. Volts	Bias Tap	D.C. M.A.	Pri. V.A.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-19P54	115	560-0-560	400		150	115	2G	3	2 5/8	3 3/4	3 3/8	4 15/16	7
T-19P55	115	660-0-660 550-0-550	500 400	30 V.	250	200	2G	3	3 7/16	3 3/4	4 3/16	4 15/16	8
T-84P60	115	515-0-515	400	30 V.	250	190	2G	3	4	3 11/16	4 3/4	4 15/16	11 3/4
T-19P70	115	900-0-900 605-0-605	750* 400		100 225	260	2G	3	3 7/8	3 3/4	4 5/8	4 15/16	11 1/2
T-19P56	115	900-0-900 800-0-800	750 600		225	260	2G	3	3 1/2	3 3/4	4 1/4	4 15/16	10
T-19P57	115	1075-0-1075 500-0-500	1000* 400		125 150	245	2G	3	3 3/4	3 3/4	4 1/2	4 15/16	10 1/2
T-19P58	115	1200-0-1200 900-0-900	1000* 750		200 150	500	2G	3 1/4	3 11/16	4 3/8	5 5/8	6 1/8	19
T-19P69	115	1180-0-1180 900-0-900	1000 750		300	430	2G	3 3/4	3 5/8	5 1/16	6 1/4	6 3/4	20
T-19P71	115	1325-0-1325 595-0-595	1250* 400		125 200	320	2G	3	4 1/16	3 7/8	5 1/8	4 5/8	13
T-19P59	115	1560-0-1560 1250-0-1250	1250 1000		300	550	2K	4 3/16	3 5/16	5 7/8	7 5/8	6 1/16	26 1/2
T-19P60	115	1875-0-1875 1560-0-1560	1500 1250		300	620	2K	5 3/4	4 3/8	6 11/16	7 1/8	6 3/4	29 1/4
T-19P61	115	2125-0-2125 1875-0-1875	1750 1500		300	745	2K	5 3/4	4 5/8	6 11/16	7 3/8	6 3/4	31 1/2
T-19P62	115	2420-0-2420 2125-0-2125	2000 1750		300	860	2K	5 3/4	5	6 11/16	7 3/4	6 3/4	34 1/2
T-19P65	115	3000-0-3000 2420-0-2420	2500 2000		300	1195	2K	5 3/4	6	6 11/16	9 1/8	8 3/4	44
T-19P63	115	1560-0-1560 1265-0-1265	1250 1000		500	925	2K	5 3/4	5 1/4	6 11/16	8 5/8	6 3/4	38
T-19P64	115	1875-0-1875 1560-0-1560	1500 1250		500	1130	2K	5 3/4	6	6 11/16	9 1/8	6 3/4	43 1/4
T-19P66	115	2125-0-2125 1875-0-1875	1750 1500		500	1185	2K	5 3/4	4 3/8	6 11/16	7 1/4	9 15/16	45 1/2
T-19P67	115	2450-0-2450 2125-0-2125	2000 1750		500	1380	2K	5 3/4	4 5/8	6 11/16	7 1/2	9 15/16	51
T-19P68	115	3000-0-3000 2450-0-2450	2500 2000		500	1760	2K	5 3/4	5 5/8	6 11/16	8 1/2	9 15/16	61

*These transformers designed for double rectifiers and will deliver both secondary ratings simultaneously. If only the lower voltage taps are used the current rating is equal to the current rating of both windings.

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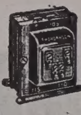
2D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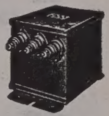
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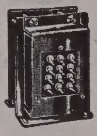
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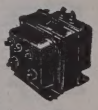
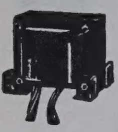
3G

3U

4U


2K

3A
Flush



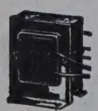
3A
Horizontal

3A
Vertical

2G

3L

4G



3C

UNIVERSAL REPLACEMENT POWER TRANSFORMERS — "13R" SERIES

The choice of servicemen in all parts of the world because of the universal adaptability to receiver replacement, from both electrical and mechanical considerations. Adjustable mounting brackets permit flush, vertical or horizontal mounting. Replacement recommendations are given in Thordarson Replacement Transformer Encyclopedia No. 352.

Type No.	Pri. V.A.	Secondary A.C. Load Volts	Secondary D.C. M.A.	Filament Windings Rect. Fil.	Filament Windings Fil. No. 1	Filament Windings Fil No. 2	Filament Windings Fil. No. 3	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13R19	45	240-0-240	40	5V—2A	6.3V—2A Ct.			3A	2 1/2	2 1/16	3	2 1/2	2 1/2	2 1/2
T-13R11	60	290-0-290	50	5V—3A	6.3V—2A Ct.			3A	2 1/2	2 1/16	3	2 1/2	2 3/4	3 1/4
T-13R20	60	305-0-305	70	5V—2A	6.3V—3.5A Ct.			3A	2 1/2	2 1/16	3	2 1/2	3 5/16	3 1/4
T-13R12	65	350-0-350	70	5V—3A	6.3V—2.5A Ct.			3A	2 1/2	2 1/16	3	2 1/2	3 5/16	3 1/4
T-13R13	90	350-0-350	90	5V—3A	6.3V—3.5A Ct.			3A	3 1/8	2 1/2	3 3/4	3 1/8	3 1/2	5 1/4
T-13R14	115	350-0-350	120	5V—4A	6.3V—4.7A Ct.			3A	3 1/8	2 1/2	3 3/4	3 1/8	3 5/8	5 1/4
T-13R15	140	375-0-375	150	5V—4A	6.3V—5A Ct.			3A	3 3/4	3	4 1/2	3 3/4	3 7/16	6 1/2
T-13R16	180	400-0-400	200	5V—4A	6.3V—5.14A Ct.			3A	3 3/4	3	4 1/2	3 3/4	3 11/16	7 3/4
T-13R17	85	300-0-300	60	5V—3A	6.3V—2.5A Ct.	2.5V—7.5A Ct.		3A	2 15/16	2 1/4	3 3/8	2 15/16	3 1/16	4 1/2
T-13R18	115	350-0-350	90	5V—3A	6.3/2.5—3.5A Ct.	2.5V—9A Ct.		3A	3 3/4	3	4 1/2	3 3/4	3 1/4	5 3/4
T-13R08	105	350-0-350	90	5V—3A	6.3V—3.3A Ct.	2.5V—6A Ct.		3A	3 1/8	2 1/2	3 3/4	3 1/8	3 5/8	5 1/4
T-13R09	160	375-0-375	180	5V—3A	6.3V—3.3A Ct.	2.5V—6A Ct.		3A	3 3/4	3	4 1/2	3 3/4	3 9/16	7 1/2
T-13R00	70	275-0-275	70	5V—3A	5V—.5A Ct.	2.5V—10.5A Ct.		3A	2 15/16	2 1/4	3 3/8	2 15/16	3 5/16	4
T-13R01	60	325-0-325	40	5V—3A	2.5V—4A Ct.			3A	2 1/2	2 1/16	3	2 1/2	2 3/4	3 1/4
T-13R02	60	350-0-350	50	5V—3A	2.5V—7.25A Ct.			3A	2 1/2	2 1/16	3	2 1/2	2 15/16	3 1/4
T-13R03	75	350-0-350	70	5V—3A	2.5V—9A Ct.			3A	2 15/16	2 1/4	3 3/8	2 15/16	3 5/16	4
T-13R04	115	350-0-350	100	5V—3A	2.5V—12.5A Ct.			3A	3 1/8	2 1/2	3 3/4	3 1/8	3 7/8	5 1/4
T-13R05	110	350-0-350	70	5V—3A	2.5V—9A Ct.	2.5V—3.5A Ct.		3A	3 1/8	2 1/2	3 3/4	3 1/8	3 5/8	5 1/4
T-13R06	130	350-0-350	120	5V—3A	2.5V—12.5A Ct.	2.5V—3.5A Ct.		3A	3 3/4	3	4 1/2	3 3/4	3 1/8	6 1/2
T-13R07	140	400-0-400	110	5V—3A	2.5V—15A Ct.	2.5V—3.5A Ct.		3A	3 3/4	3	4 1/2	3 3/4	3 7/16	6 3/4

Amplifier, Transmitter and Replacement Power Transformers

FULLY SHIELDED — UPRIGHT MOUNTING

Leads are brought out through opening in base.

T-56R01	60	325-0-325	70		5V—2A	2.5V—3A Ct.	1.5V—1A 1.5V—4A	5V—.5A Ct.	2G	2 11/16	2 15/16	3 5/16	3 5/8	4 5/8	5 3/4
T-56R03	85	350-0-350	105		5V—3A	2.5V—3A Ct.	2.5V—1.75A Ct.	1.5V—5A 1.5V—1A	2G	3	2 15/16	3 3/4	3 9/16	4 15/16	7 1/4
T-56R05	115	350-0-350	110		5V—3A	2.5V—9A Ct.	2.5V—3A Ct.	2.5V—3A Ct.	2G	3	2 15/16	3 3/4	3 11/16	4 15/16	7 3/4
T-70R78	60	340-0-340	55		5V—2A	6.3V—1.5A Ct.			2G	2 11/16	2 1/8	3 5/16	2 3/4	4 5/8	4
T-17R34	90	300-0-300	125		5V—2A	6.3V—4.8A Ct.			2G	2 11/16	2 9/16	3 5/16	3 3/8	4 5/8	4 3/4
T-17R35	60	290-0-290	50		5V—3A	6.3V—2A Ct.			4G	2	1 15/16	2 5/8	3	3 1/8	3 1/2
T-17R36	65	350-0-350	70		5V—3A	6.3V—2.5A Ct.			4G	2	2 1/2	2 5/8	3 9/16	3 1/8	3 1/2
T-17R37	90	350-0-350	90		5V—3A	6.3V—3.5A Ct.			2G	2 11/16	2 11/16	3 5/16	3 1/2	4 5/8	5 1/2
T-17R38	115	350-0-350	120		5V—4A	6.3V—4.7A Ct.			2G	2 11/16	2 15/16	3 5/16	3 5/8	4 5/8	5 1/2
T-70R61	60	385-0-385	70		5V—2A	6.3V—2.5A Ct.			2G	2 11/16	2 5/16	3 5/16	3 1/8	4 5/8	4 3/4
T-70R62	110	350-0-350	145		5V—3A	6.3V—4.5A Ct.			2G	3	3 1/8	3 3/4	3 7/8	4 15/16	8 1/2
T-92R21	150	389-0-389	200		5V—3A	6.3V—5A Ct.			2G	3	3 1/2	3 3/4	4 1/4	4 7/16	9
T-17R30	200	370-0-370	280		5V—3A	6.3V—7A Ct.			2G	3	3 5/8	3 3/4	4 3/8	4 15/16	9 1/2
T-17R31	300	430-0-430	325		5V—6A	6.3V—8A Ct.			2G	3	3 1/2	3 3/4	4 1/4	4 15/16	13 1/2
T-74R28	105	440-0-440	125	38V	5V—3A 2.5V—3A	6.3V—3.3A Ct.			2G	3	2 15/16	3 3/4	3 11/16	4 15/16	8
T-87R85	145	330-0-330	160	77V	5V—3A 5V—2A	6.3V—2A Ct.	2.5V—5A Ct.		2G	3	3 1/8	3 3/4	3 7/8	4 15/16	8 1/2
T-68R26	160	550-0-550	150		5V—3A	7.5V—2.5A Ct.	2.5V—5A Ct.		2G	3	3 1/2	3 3/4	4 1/4	4 15/16	10 1/8
T-69R35	135	385-0-385	200		5V—3A	6.3V—3A Ct.			2G	3	3 1/2	3 3/4	4 1/4	4 15/16	9 1/2
T-75R50	160	435-0-435	250	80V	5V—3A 2.5V—3A	6.3V—1.5A Ct.	2.5V—10A Ct.		2G	3	3 1/2	3 3/4	4 1/4	4 15/16	10 1/2
T-83R85	290	740-0-740 325-0-325	200	150V	5V—3A 2.5V—3A	7.5V—5A Ct.			2G	3	4 1/2	3 3/4	5 1/4	4 15/16	13 1/2
T-89R28	250	550-0-550	275 75		5V—3A Ct 5V—2A Ct.	6.3V—6A Ct.			2G	3	4 1/2	3 11/16	5 1/4	4 15/16	15
T-19R30	170	560-0-560	150		5V—3A	6.3V—3A Ct.	7.5V—2.5A Ct.		2G	3	3 1/4	3 3/4	4	4 15/16	8 3/4

C. H. T. POWER TRANSFORMERS

For amplifiers, transmitters, or deluxe receivers. Designed to operate continuously at full rated load. Cases compound filled for complete coil protection.

T-15R04	30	255-0-255	25			6.3V—2.1A Ct.			3U	2 3/8	2 1/2	3	3	3 5/16	3
T-15R05	150	340-0-340	135	77V	5V—3A 5V—2A	6.3V—4A Ct.	*6.3V—2A Ct. *2.5V—5A Ct.		3U	3 5/8	3 7/16	4 5/16	4 1/8	5 7/16	10
T-15R06	155	360-0-360	175		5V—3A	6.3V—5A Ct.			3U	3 5/8	3 7/16	4 5/16	4 1/8	5 7/16	11
T-15R07	238	380-0-380	280		5V—3A	6.3V—7A Ct.			3U	3 5/8	4 1/4	4 5/16	4 7/8	5 3/8	12
T-15R08	253	450-0-450	325		5V—6A	6.3V—8A Ct.			3U	4 9/16	4 3/32	5 3/8	4 15/16	6 3/8	22

SPEAKER FIELD SUPPLY TRANSFORMERS

T-67R97	55	115 V.D.C. @ 50 to 250			5V—3A				4G	3 1/4	1 15/16	3 7/8	3 1/8	3 5/16	4 3/4
T-92R53	120	300 V.D.C. @ 200			5V—3A				4G	3 1/4	2 3/8	3 13/16	3 7/8	3 1/4	6 1/4

*Not simultaneous — for 2A3's or 6A3's Fil.

UNIVERSAL 115 VOLT A. C. OR 6 VOLT D. C. VIBRATOR POWER TRANSFORMER

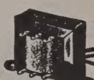
T-14R40		350V. DC @	135 Ma.			Fil.-6.3VCt. 4.75 Amp.			2G	3	3 1/4	3 3/4	4	4 15/16	8 1/2

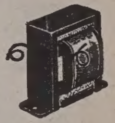
We can supply all Thordarson products. Ask for complete Thordarson catalog.

OUTPUT (S) TRANSFORMERS

For coupling audio power amplifier tubes to a loud speaker voice coil or line. Correctly matching the output tubes to a speaker load is important. Efficiency, frequency response and distortion are affected by this matching. Small, unshielded types are listed for use with receivers where the transformer is usually mounted on the loud speaker frame. Larger shielded types have multiple secondary impedances as required in sound amplifiers. C.H.T. output transformers have a greater selection of output impedances, meeting practically all speaker requirements. These units are compound filled and are provided with jacks and plugs to facilitate speaker matching. Tertiary winding included on some types for inverse feed-back voltage.

3B


3E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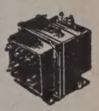

2D

REPLACEMENT OUTPUT TRANSFORMERS

Type No.	Tube Type	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A. Per Side	Max. Watts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-14S81	1-42, 2A5, 6F6 or P-P45, 71	A	7,000 Ct.	3 to 6	40	5	3B	2		2⅜	1⅝	1⅜	½
T-14S82	1-25L6	A	1,500	3 to 6	55	5	3B	2		2⅜	1⅝	1⅜	½
T-14S83	1A5-G, 1E7-G	A	25,000 Ct.	3 to 6	8	5	3B	2		2⅜	1⅝	1⅜	½
T-14S84	1-1C5G, 1Q5G	A	8,000	3 to 6	10	5	3B	2		2⅜	1⅝	1⅜	½
T-13S37	1-6F6, 42, 2A5, 47	A	7,000	1/2/4	36	5	3E	2		2⅜	2	1⅜	½
T-13S39	1-45, 12A5, 43, 71A	A	4,000	1/2/4	36	5	3E	2		2⅜	2	1⅜	½
T-13S43	1-1F4, 1D4, 1F5G	A	16,000	1/2/4	10	5	3E	2		2⅜	1⅝	1⅜	½
T-33S99	2-45, 71, 43, 25A6 P-P	A	8,000 Ct.	6 to 12	36	10	2B	2⅜		2⅞	2⅛	2⅜	1¼
T-13S40	2-6F6, 42 P-P, 2-2A5, 47 P-P	A	14,000 Ct.	1/2/4	40	10	3E	2⅜		2 11/16	2	1⅝	¾
T-81S01	1-19, 1J6G, 1G6G P-P 2-30, 49 P-P	B B	10,000 Ct.	2/4/8	15	8	2B	2⅛		2 9/16	1⅝	2	¾

HEAVY DUTY OUTPUT TRANSFORMERS TO LINE OR SPEAKER (High Level)

Type No.	Tube Type	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A. Per Side	Max. Watts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-72S58	Pentode Plate to phones or oscillator	A	10,000	2,000 50	30	5	2B	2⅛		2 9/16	1⅝	2	¾
T-17S10	1-6L6	A	2,500	2/4/8/500	80	8	2F	2 15/16		3⅜	2½	3	2¼
T-17S11	2-6V6 P-P	AB1	8,000*	4/8/15/250/500	52	15	2F	3 11/32		3 15/16	3 1/16	3½	3½
T-17S12	2-6L6 P-P	AB1 (with 300 V. on plate and screen)	4,300*	4/8/15/250/500	95	25	2F	3 11/32		3 15/16	3 1/16	3½	3½
T-17S13	2-6L6 P-P	AB1	6,600*	4/8/15/250/500	80	34	2G	2 11/16	2 9/16	3 5/16	3⅜	4⅝	5½
T-17S14	2-6L6 P-P	AB2	5,500*	4/8/15/250/500	90	40	2G	2 11/16	2 9/16	3 5/16	3⅜	4⅝	5¼
T-17S15	4-6L6 P-P Par.	AB1	3,300*	4/8/15/250/500	155	60	2G	2 11/16	2 15/16	3 5/16	3⅝	4⅝	5¾
T-68S06	1-6F6, 42, 2A5, 1-47	A	7,000	10 or 2,000	36	5	2F	2⅜		2⅞	1⅞	2⅜	1
T-67S51	2-6F6, 42, 2A5, 47 P-P	A	14,000	4/8/15/500	40	20	2F	2 15/16		3⅜	2½	3	2¼
T-67S48	2-45, 71, 43, 25A6 P-P 1-6N7, 6A6, 53 P-P	A B	8,000	4/8/15/500	36	25	2F	2 15/16		3⅜	2½	3	2¼
T-67S52	2-46, 59 P-P 2-6F6, 42, 2A5 P-P 2-6N7, 6A6, 53 P-P Par.	B AB2 B	5,800	4/8/15/500	60	30	2F	3 11/32		3 15/16	3 1/16	3½	3½
T-58S72	2-2A3, 6B4G P-P 2-48, 25L6 P-P	AB A	3,000	4/8/15/500	60	30	2F	3 11/32		3 15/16	3 1/16	3½	3¼
T-67S54	2-6L6 P-P 2-2A3, 6B4G, 45 P-P	A AB	5,000	4/8/15/500	60	30	2F	3 11/32		3 15/16	3 1/16	3½	3½
T-67S92	4-2A3, 6B4G, 45 P-P Par. 4-48, 25L6, P-P Par.	AB A	1,500	4/8/15/500	80	40	2F	3 11/32		3 15/16	3 1/16	3½	3½
T-65S94	2-50 P-P 2-6F6, 42, 2A5 P-P	A AB2	8,000	4/8/15/500	55	40	2F	3 11/32		3 15/16	3 1/16	3½	3½
T-75S75	2-6F6, 42 or 2A5 1-6N7, 6A6, 53 P-P 2-6N6G, 6B5, 2B6, 6AC5 P-P	AB2 B A	10,000	4/8/15/500	45	40	2F	3 11/32		3 15/16	3 1/16	3½	3½
T-84S58	2-6L6 P-P	AB2	3,800	4/8/15/500	115	60	2G	2 11/16	2 15/16	3 5/16	3⅝	4⅝	6
T-89S75	2-6L6 P-P	AB1	6,600	4/8/15/500	80	40	2F	3 11/32		3 15/16	3 1/16	3½	3½

*10% feed-back winding.

UNIVERSAL REPLACEMENT TUBE TO VOICE COIL

Preferred by many because of their wide plate impedance and voice coil coverage. Proper matching of load impedances to speaker voice coils is accomplished by using taps as specified in the instruction sheets.

Type No.	Tube Type	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A. Per Side	Max. Watts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13S38	Universal Single or P-P Tubes	A	4,000/7,000 8,000/10,000 14,000 Ct.	Adjustable .1 to 29	36	8	3E	2⅜		2 11/16	2	1⅝	¾
T-14S85							3B	2⅜		2 11/16	1⅝	1⅝	¾
T-57S01*							2E	2⅜		2⅞	2½	2⅜	1¼
T-57S02†							2B	2⅜		2⅞	2⅛	2⅜	1¼
T-13S42	Universal Single Tube	A	1,500/2,000 4,000/5,000 7,000	Adjustable .1 to 29	55	10	3E	2⅜		2 11/16	2	1⅝	¾
T-13S41	Universal P-P Tubes	A	3,000/5,000 6,600/7,000 8,000/10,000	Adjustable .1 to 29	60	20	2E	2 15/16		3⅜	2½	3	2¼

*Solder terminals for voice coil connections. †Color coded leads for voice coil connections.

UNIVERSAL TUBE TO LINE

Type No.	Tube Type	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A. Per Side	Max. Watts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-61S25	Univ. Single Tube	A	2,500/4,000 5,000/6,000/7,000	500	60	10	2E	2 15/16		3⅜	2½	3	2¼
T-61S26	Univ. P-P Tubes	A	8,000/10,000 12,000/14,000 Ct.	500	55	10	2E	2 15/16		3⅜	2½	3	2¼

UNIVERSAL LINE TO VOICE COIL

Type No.	Tube Type	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A. Per Side	Max. Watts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-53S81	Line to Voice Coil		500/250	4-8-15		35	2D	2⅛	1¾	2⅞	2 15/16	3 11/16	3½
T-60S48	Line to Voice Coil 1 to 6 may be con. in par. to 500 ohm line		500/1,000 1,500/2,000 2,500/3,000	Pri. as 500 ohm-.06 to 8.; pri. as 1,000 ohm .12 to 16, etc.		10	2E	2 15/16		3⅜	2½	3	2
T-17S18							2D	2 1/16	1 11/16	3	2¾	2⅝	2¼
T-14S80	Line to Voice Coil		500	2/4/6/8		12	2E	2⅜		2⅞	2½	2⅜	1½

We can supply all Thordarson products. Ask for complete Thordarson catalog.

C. H. T. MULTIPLE TAP OUTPUT TRANSFORMERS

Include these C. H. T. premium quality features: Switchboard plug-in terminal board for quick and accurate selection of secondary impedances, conservative design for exceptional performance, and complete coil protection against humidity. Tertiary winding to give a feedback voltage 10% of full primary. Split Primaries.

3U

Type No.	Application	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M. A. Per Side	Max. Watts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15S90	2-6V6 P-P 2-6L6 P-P 2-2A3 P-P (self bias)	AB1 AB1 AB	8,000 5,000 5,000	2/3/4/6/- 8/16/125/- 250/500	70	15	4U	3 5/8	3 7/32	4 5/16	4 3/8	4 3/4	7 1/4
T-15S91	2-6L6 P-P (300 V. P. & Sc.) 2-2A3 P-P(fixed bias)	AB AB	4,300 3,000	Same as above	95	25	4U	3 5/8	3 7/32	4 1/16	4 3/8	4 3/4	8

C. H. T. CRYSTAL RECORDER TRANSFORMERS

The wave of interest in recording radio programs, speech and other audio happenings has created the desire to build recording equipment. These two transformers are offered to meet the requirements for coupling to a crystal recording head. Secondary designed for constant velocity recording (series connection) and constant amplitude recording (parallel connection).

3H

Type No.	Application	Ohms Impedance Pri.	Ohms Impedance Sec.	Max. Watts	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15S98	Line to crystal cutting head	500	Series 20,000 Par. 5,000	10	3U	2 3/8	2 1/8	3	2 3/4	4	5
T-15S99	Push-pull 2A3, 6B4G etc. to crystal head	3,000	Series 20,000 Par. 5,000	10	3U	2 3/8	2 1/8	3	2 3/4	4	5

VOLTAGE CHANGER (V) TRANSFORMERS

FILAMENT CORRECTOR AUTOTRANSFORMERS

To compensate for variations in line voltage or for drop in filament leads. Correct filament voltage at the tube is made possible.

2E

Type No.	Capacity Filament Power Watts	Primary Taps	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-18V24	60	105/110/115/120/125V.	2E	2 3/8		2 7/8	2 1/8	2 3/8	1
T-18V25	150	105/110/115/120/125V.	2E	2 15/16		3 3/8	2 1/2	2 15/16	1 3/4

AUTOTRANSFORMERS

Autotransformers consist of a single winding on an iron core. Voltage variation is accomplished by means of taps.

Step Down — Convenience Outlet Type

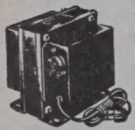
Input side equipped with cord and plug. Output side has standard receptacle.

2V

Type No.	Input Volts	Output Volts	Output Load V.A.	Output Load Amps.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt Lbs.
T-26V04	220–250	110–125	80	0.725	2V	2 11/16	2 1/16	3 3/8	2 7/8	4 5/8	4 1/2
T-18V06	220–250	110–125	150	1.35	2V	2 11/16	2 13/16	3 3/8	3 5/8	4 5/8	6 1/4
T-50V11	220–250	110–125	250	2.25	2V	3	3 1/2	3 13/16	4 1/4	4 15/16	10 1/4
T-18V07	220–250	110–125	500	4.5	2V	3	4 1/8	3 3/4	4 7/8	4 15/16	13

Line Voltage Adjusting — Convenience Outlet Type

For boosting or lowering line voltage. Input taps may be selected by means of a convenient plug arrangement as illustrated (Fig. 4E)


4E

Type No.	Input Volts	Output Volts	Output Load V.A.	Output Load Amps.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt Lbs.
T-18V20	95/105/125	115	100	0.9	2V	2 11/16	2 1/16	3 3/8	2 7/8	4 5/8	4 1/2
T-18V21	95/105/125	115	150	1.3	2V	2 11/16	2 5/16	3 3/8	3 1/8	4 5/8	5
T-18V22	95/105/125	115	250	2.2	2V	3	2 5/8	3 13/16	3 3/8	4 13/16	6 1/2
T-18V23	95/105/125	115	500	4.5	2V	3	3 1/8	3 13/16	3 7/8	4 13/16	9

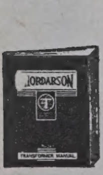
LINE REGULATING AUTOTRANSFORMER

Provides for an increase or decrease of 7.5 volts. May be used on any A.C. line of 50-60 cycle frequency from 90V to 125V as a step-up or step-down transformer. Especially suitable for boosting line voltage for fluorescent lighting units. Fully enclosed (similar to 2H) and mounted on a 4" outlet box cover, allowing for complete enclosure of all wiring in a conduit or BX system.

Type No.	Input Volts	Output Volts	Output Load V.A.	Output Load Amps.	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt Lbs.
T-18V26	90–125	7.5 Variation	1150	10	4L	3 5/8		4 1/8	3 1/2	4 1/8	5

THORDARSON OSCILLOSCOPE KIT

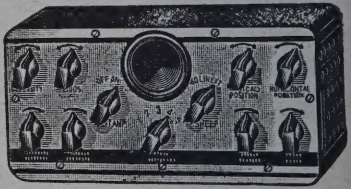
An accurately designed circuit using a 913 tube. Magnifying lens gives clear 2" image and small overall size of unit makes it ideal for relay rack of servicemen and for amateur and experimental uses.



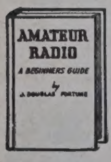
No. 340 Manual

Type No.	Description
T-11K99	Foundation Unit (Consists of punched chassis, panel, light shield, etched panel, ventilated cabinet and 2" magnifying lens with retainer ring, and complete circuit with constructional and operating data.) In addition to the foundation unit, one T-92R33 power transformer (see below) and one T-74C30 filter choke are required.

Circuit diagram, description and complete parts list given in catalog sheet SD266



POWER TRANSFORMERS FOR CATHODE RAY TUBES



No. 333 Amateur Radio

Type No.	Volts D.C.	M.A.	Rect. Fil.	Fil. No. 1	Fil. No. 2	Mtg. Fig.	Mtg. Centers Width	Mtg. Centers Depth	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-14R32- For Dumont 24XH; RCA902, 913; National 2002 tubes	400 tap—430	15	5V—2A 5V—2A. Ct	6.3V—.6A	2.5V—2A (No. 3, 6.3V—.6A)	2G	2 1/8	2 1/8	2 7/8	3 3/8	3 11/16	4
T-92R33 For 913 tube	**500 tap—400	3 15	6.3V—.9A	6.3V—.6A	6.3V— .6A (No. 3, 2.5V—1.4A)	2F	3 11/16		3 13/16	3 1/16	3 1/2	3 1/4

**With half wave rectification.

#340 Complete Transformer Manual — 35c postpaid — contains Sound Amplifier Guide, Transmitter Guide, and Replacement Encyclopedia with catalogs. A popular book in every technical library.

#333 Amateur Radio — a beginner's guide — 75c postpaid — one of the most comprehensive and clearly written books available for learning Amateur Radio. Cloth bound book, 160 pages, over 100 illustrations. A handy reference book for the experienced amateur.

We can supply all Thordarson products. Ask for complete Thordarson catalog.

LINEAR STANDARD TRANSFORMERS

UTC LINEAR STANDARD Components represent the closest approach to the ideal transformer from the standpoint of uniform response, low wave form distortion, high efficiency, thorough shielding and dependability.

The multiple tap windings used make possible a wide combination of impedance connections without impairing the audio range or efficiency.

UTC engineers have spent considerable time studying the many annoying hum pickup difficulties which are prevalent in high gain A.C. operated amplifying equipment. As a result, a special cast alloy has been developed to house all UTC Linear Standard units. In addition, low level input transformers use the new UTC dual and quadruple alloy shields thus making possible a transformer with the lowest hum pickup of any available commercially.

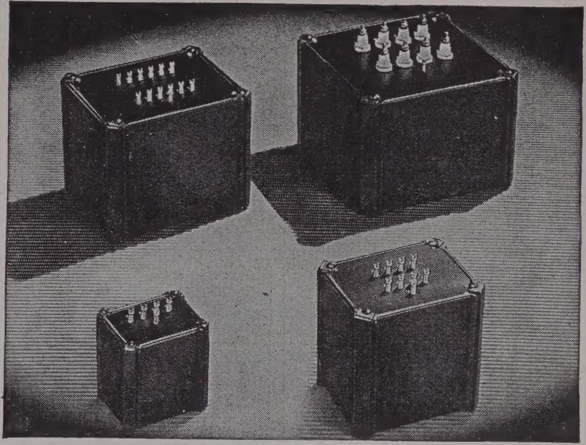
LINEAR STANDARD UNITS FEATURE:

- **True Hum Balancing Coil Structure . . .** maximum neutralization of stray fields.
- **Balanced Variable Impedance Line . . .** permits highest fidelity on every tap of a universal unit . . . no line reflections or transverse coupling.
- **Reversible Mounting . . .** permits above chassis or subchassis wiring.
- **Full Electrostatic Shielding . . .** brought out to separate terminal.
- **Alloy Shields . . .** maximum shielding from inductive pickup.
- **Multiple Coil, Semi-Toroidal Coil Structure . . .** minimum distributed capacity and leakage reactance.
- **Precision Winding . . .** accuracy of winding .1%, perfect balance of inductance and capacity; exact impedance reflection.
- **Hiperm-Alloy . . .** a **Stable** high permeability nickel-iron core material.
- **High Fidelity . . .** UTC Linear Standard transformers are the **only** audio units with a **guaranteed** uniform response, from 30 to 20,000 cycles ± 1 db.

OVERALL DIMENSIONS						
Case	L	W	H	Mtg.	Dim.	Weight Lbs.
LS-1	$2\frac{9}{16}$	$3\frac{3}{16}$	$3\frac{11}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	4
LS-2	$3\frac{1}{2}$	$4\frac{3}{8}$	$4\frac{5}{8}$	$2\frac{11}{16}$	$3\frac{11}{16}$	8
LS-3	5	$5\frac{3}{4}$	$5\frac{3}{16}$	$4\frac{3}{16}$	$5\frac{1}{32}$	15
LS-4	$6\frac{7}{16}$	$6\frac{7}{16}$	$5\frac{3}{8}$	$5\frac{3}{4}$	$5\frac{3}{4}$	23
CC-1	$7\frac{3}{8}$	$10\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{4}$	$4\frac{1}{2}$	33
CC-2	11	11	$9\frac{1}{4}$	$9\frac{3}{8}$	$4\frac{3}{4}$	83
LS-6	16	14	16	8	$14\frac{1}{2}$	200
LS-7	21	18	21	$11\frac{3}{4}$	$19\frac{3}{4}$	500

LOW IMPEDANCE TO GRID TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-10	Low impedance mike, pick-up, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	60,000 ohms in two sections	Dual Alloy shield -74DB	**LS-1** **$18.00**
LS-10X	As above	As above	50,000 ohms	Quadruple alloy shield -92DB	**LS-1** **22.50**
LS-12	Low impedance mike, pick-up or multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	120,000 ohms overall in two sections	Dual alloy shield -74DB	**LS-1** **20.00**
LS-12X	As above	As above	80,000 ohms overall in two sections	Quadruple alloy shield -92DB	**LS-1** **25.00**
LS-14	Low impedance mike, pick-up, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	Dual alloy shield -74DB	**LS-1** **20.00**
LS-14X	As above	As above	50,000 ohms	Quadruple alloy shield -92DB	**LS-1** **25.00**
LS-15	Three isolated lines or pads to one or two grids	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	Dual Alloy shield -74DB	**LS-1** **20.00**
LS-15X	As above	As above	As above	Quadruple alloy shield -92DB	**LS-1** **25.00**
LS-18	High level multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	50,000 ohms overall, in two sections	Alloy casting -50DB	**LS-2** **22.00**



PLATE, CRYSTAL, PHOTOCELL AND BRIDGING TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-27	Single plate to multiple line	8,000 to 15,000 ohms 8 MA, D. C.	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **$17.00**
LS-50	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **17.00**
LS-51	Push pull low level plates to multiple line	8,000 to 15,000 ohms each side	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **17.00**
LS-37	Crystal microphone or pick-up to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **18.00**
LS-38	Crystal microphone or pick-up to multiple line, with internal equalizer	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **22.50**
LS-39	Photocell, high-mu triode diode or over-biased detector to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **18.00**
LS-150	Bridging transformer from 50 to 500 ohm line to multiple line	4,000 ohms, bridging	50 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **18.00**
LS-151	Bridging transformer from 50 to 500 ohm line to multiple line	16,000 ohms, bridging	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield —74DB	**LS-1** **18.00**

MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-30	Mixing, low impedance mike, pickup or multiple line to multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **$18.00**
LS-30X	As above	As above	As above	Quadruple alloy shield -92DB	**LS-1** **22.50**
LS-31	Three isolated lines or pads to multiple line	30, 50, 200, 250 ohms each primary	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **20.00**
LS-31X	As above	As above	As above	Quadruple alloy shield -92DB	**LS-1** **25.00**
LS-32	Mixing ,low impedance mike, pickup, or parallel mixer to multiple line	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	**LS-1** **20.00**

INTERSTAGE AUDIO TRANSFORMERS

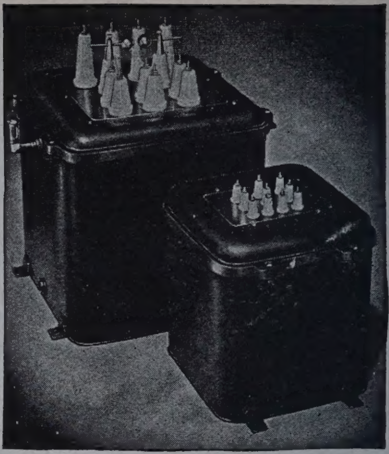
Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-19	Single plate to PP grids like 2A3, 59, 46, 6L6	8,000 to 15,000 ohms; split primary	95,000 ohms; turn ratio 1:25; 1 each side; split secondary	Alloy casting -50 DB	**LS-1** **$17.00**
LS-20	Single plate to single grid	8,000 to 15,000 ohms.	60,000 ohms: 2:1 turn ratio	Dual alloy shield -74DB	**LS-1** **15.00**
LS-21	Single plate to push pull grids	8,000 to 15,000 ohms.	135,000 ohms; turn ratio 1.5:1 each side. Primary and secondary each in two sections	Dual alloy shield -74DB	**LS-1** **17.00**
LS-40	Single plate to push-pull grids	As above, will carry 8 MA DC	135,000 ohms 1.5:1 turn ratio each side	Dual alloy shield –74 DB	**LS-1** **17.00**
LS-22	Push pull plates to push pull grids	8,000 to 15,000 ohms	38,000 ohms each secondary, turn ratio 1.6:1 each side of center. Primary and secondary each in two sections	Alloy casting -50DB	**LS-2** **22.00**
LS-25	P.P. plates to P. P. grids. Medium level	8,000 to 15,000 ohms; split primary	100,000 ohms overall; 25.000 ohms each side. Turn ratio 1.3:1, Split secondary	Alloy casting -50DB	**LS-1** **20.00**
LS-26	Bridging line to 1 or 2 grids	5000	60,000 ohms in two sections	Dual alloy shield –74 DB	**LS-1** **18.00**

DRIVER TRANSFORMERS

Type No.	Application	Primary Impedance	Reflected Secondary Impedance	Case No. List Price
LS-5	Driver, multiple line to class B 838's, 805's, ZB-120's, 203A's and similar tubes	50, 125, 200 250, 333, 500 ohms	2,000 ohms; 1:2 overall turns ratio	**LS-2** **$30.00**
LS-6	Driver, push pull 45's, 59's, 2A3's, 6A5's, etc. to push pull 845 or 211D grids	800 to 2,000 ohms	.6 primary impedance turns ratio 1.3:1 overall	**LS-2** **22.00**
LS-7	Push pull 56, 6C5 or similar plates to A prime 45's, 42's, 6F6's, 2A3's	8,000 to 15,000 ohms	.45 primary impedance turn ratio 1:5:1 overall	**LS-2** **22.00**
LS-47X	Driver from push pull 2A3's, 6A5G's, or 300A's to Class B 838's, 203A's 805's, or ZB120's	800 to 1,000 ohms	.1 pri. impedance turns ratio. Pri./½ Sec. 3.2:1	**LS-2** **25.00**
LS-48	Driver transformer push pull 845's, to 204 or 849 grids in class B	1,000 to 2,000 ohms	.038 pri. impedance turns ratio, Pri./½ Sec. 5.1:1	**LS-4** **35.00**
LS-49	Push pull parallel 2A3, 6A5G, or 300A tubes to four 838. 203A, 805, or ZB120 tubes	800 to 2,000 ohms	.028 pri. impedance turns ratio, Pri./½ Sec. 6.0:1	**LS-4** **30.00**

HIGH LEVEL MATCHING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary	Case No. List Price
LS-33	High level line matching. 15 watts	50, 125, 200, 250, 333, 500 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200,250, 333, 500 ohms	**LS-2** **$20.00**
LS-34	High level line matching. 30 watts	50, 125, 200, 250, 333, 500 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500 ohms	**LS-3** **25.00**



OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Primary will match following tubes	Primary Impedance	Secondary Impedance	Case No. List Price
LS-52	Push pull 245, 250, 6V6, 42 or 2A5 A prime	8,000 ohms	500, 333, 250, 200, 125, 50, 30, 20 , 15, 10, 7.5, 5, 2.5, 1.2	**LS-2** **$20.00**
LS-54	Same as above	8,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-2** **14.00**
LS-55	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's	5,000 ohms plate to plate and 3,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-2** **20.00**
LS-57	Same as above	5,000 ohms plate to plate and 3,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-2** **14.00**
LS-58	Push pull parallel 2A3's, 6A5G's, 300A's, 6A3's	2,500 ohms plate to plate and 1,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-4** **30.00**
LS-61	Push pull 6B5, 6A6, 53, 6F6, 71A, 59, 79, 89, Class B46, 59's	10,000 ohms plate to plate and 6,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-2** **20.00**
LS-63	Same as above	10,000 ohms plate to plate and 6,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-2** **14.00**
LS-6L1	Push pull 6L6's self bias	6,600 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-3** **30.00**
LS-6L3	Same as above	6,600 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-3** **20.00**
LS-6L4	Push pull 6L6's fixed bias or push pull parallel 6L6's self bias	3,800 ohms plate to plate and 3,300 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-4** **35.00**
LS-845	845 tubes class AB	8,800 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**CC-1** **50.00**

OUTPUT TRANSFORMERS TO HIGH IMPEDANCE (RF) LOAD

Type No.	Primary will match the following tubes	Primary Impedance	Secondary Impedance	Case No. List Price
LS-56	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's. +36DB	5,000 ohms plate to plate and 3,000 ohms plate to plate	6,000, 5,000, 4,000, 1,800, 1,500, 1,000, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	**LS-2** **$20.00**
LS-66	Class B 203A, 838, ZB120, 805 +46DB	9,000 ohms plate to plate	5,000, 3,500, 2,500, 2,100, 1,250, 600	**CC-1** **70.00**
LS-67	Class B 203A, 838, ZB 120, 805 +46DB	9,000 ohms plate to plate	10,000, 2,500	**CC-1** **70.00**
LS-691	Class B 849, 833, 250th	10, 400 ohms plate to plate	4,500, 4,000, 3,500, 2,750, 2,000	**LS-6*** **250.00**
LS-692	Class B push-pull parallel 833's	3,650 ohms plate to plate	2,500, 2,000 1,750, 1,500, 1,250	**LS-7*** **500.00**

***Special oil filled construction**

LINEAR STANDARD POWER COMPONENTS

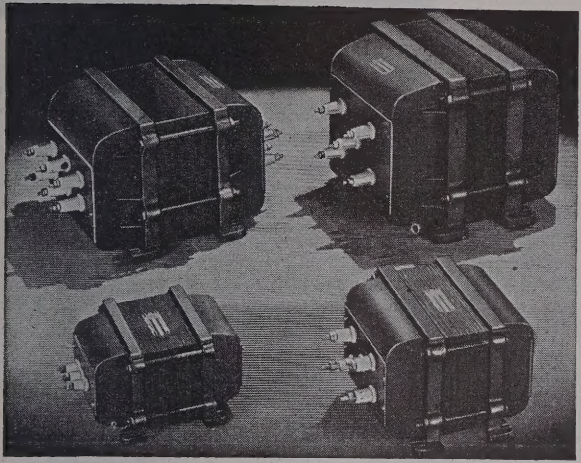


PLATE TRANSFORMERS

Type No.	Primary Volrage 50/60 Cycles	High Voltage	DC Current	List Price
LS-181	100, 110, 120, 220, 230, 240	1500-1250-0-1250-1500	200 MA	**$50.00**
LS-182	100, 110, 120, 220, 230, 240	1500-1250-0-1250-1500	350 MA	**65.00**
LS-183	100, 110, 120, 220, 230, 240	1750-1500-0-1500-1750	400 MA	**85.00**
LS-184	100, 110, 120, 220, 230, 240	3500-3000-2500-0-2500-3000-3500	500 MA	**125.00**
LS-185	100, 110, 120, 220, 230, 240	3500-3000-2500-0-2500-3000-3500	1.2 amp.	**300.00**

FILAMENT TRANSFORMERS

Type No.	Application	Primary Voltage 50/60 Cycles	Secondary Voltage	Insulation Voltage	Case No. List Price
LS-80	866A rectifiers	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A	12,000	**LS-3 $17.00**
LS-82	872 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	12,000	**LS-3 22.00**
LS-84	203A, 845, etc. HF200, HF300	100, 110, 120, 220, 230, 240	10 V.C.T.-8A	10,000	**LS-3 17.00**
LS-85	Combined filament transformer for 866 rectifiers and 845 or 203A audio tubes	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 10 V.C.T.-8A	10,000	**LS-3 25.00**
LS-88	6.3 volt tubes	105, 115, 125	6.3 V.C.T.-2A	2,500	**LS-1 8.00**
LS-118	849, 204A, HF300	100, 110, 120, 220, 230, 240	11 V.C.T.-10A	2,500	**LS-3 20.00**
LS-120	866 bridge rectifier	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 2.5 V.C.T.-5A 2.5. V.C.T.-5A	12,000	**LS-3 30.00**
LS-121	872 bridge rectifier	100, 110, 120, 220, 230, 240	5 V.C.T.-20A 5 V.C.T.-10A 5 V.C.T.-10A	12,000	**CC-0 40.00**
LS-83	872A, 575 or 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	35,000	**CC-0 45.00**
LS-89A	Three 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-60A	35,000	**CC-1 65.00**

COMBINED PLATE AND FILAMENT TRANSFORMERS

Type No.	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No. List Price
LS-180	115	225-0-225 15 MA	6.3 V.C.T.-2A 6.3 V.C.T.-.5A	**LS-1 $12.00**
LS-180H	Same as above but in hum-balanced construction (dual coils)			**LS-1 15.00**
LS-190	100, 105, 110, 115, 120, 125	350-300-0-300-350 125 MA	5 V.C.T.-3A 2.5 V.C.T. -6A 6.3 V.C.T.-3A	**LS-3 20.00**
LS-190H	Same as above but in hum-balanced construction (dual coils)			**LS-3 25.00**
LS-191	100, 105, 110, 115, 120, 125	325-250-0-250-325 35 MA	5 V.C.T.-3A 2.5 V.C.T.-2A 6.3 V.C.T.-2A	**LS-2 15.00**
LS-70	100, 105, 110, 115, 120, 125	425-375-0-375-425 200 MA 70-0-70 50 MA	5 V.C.T.-3A 5 V.C.T.-2A 2.5 V.C.T.-10A 6.3 V.C.T.-1A 6.3. V.C.T.-3A	**LS-4 25.00**
LS-72	100, 105, 110, 115, 120, 125	525-450-0-450-525 250 MA 70-0-70 50 MA	5 V.C.T.-3A 2.5 V.C.T.-3A 2.5 V.C.T.-3A 6.3 V.C.T.-1A 6.3 V.C.T.-3A tapped at 5 V.C.T.-6A	**LS-4 30.00**
LS-73	100, 105, 110, 115, 120, 125	500-400-0-400-500 500 MA 70-0-70 50 MA	5 V.C.T.-6A 2.5 V.C.T.-10A 2.5 V.C.T.-3A 6.3 V.C.T.-4A 6.3 V.C.T.-6A tapped at 5 V.C.T.-6A	**CC-1 40.00**

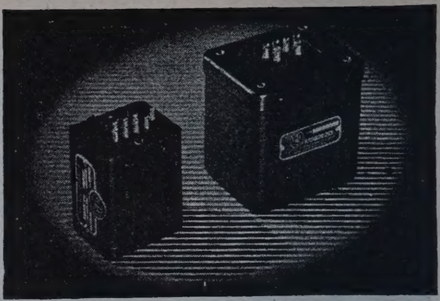
FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Application	Inductance	DC Current	DC Resistance	Case No. List Price
LS-90	Filter choke with hum bucking tap	Series-50 hy Parallel-12.5 hy	50 MA 100 MA	510 ohms 128 ohms	**LS-2 $10.00**
LS-91	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	125 MA 250 MA	200 ohms 50 ohms	**LS-2 10.00**
LS-92	Filter choke with hum bucking tap	Series-16 hy Parallel-4 hy	175 MA 350 MA	96 ohms 24 ohms	**LS-3 17.00**
LS-93	Filter choke with hum bucking tap	Series-26 hy Parallel-6.25 hy	200 MA 400 MA	112 ohms 28 ohms	**LS-4 30.00**
LS-94	Parallel feed and filter choke	Series-320 hy Parallel-80 hy	3 MA 6 MA	6400 ohms 1600 ohms	**LS-1 10.00**
LS-950	Filter choke with hum bucking tap	Series-100 hy Parallel-25 hy	35 MA 75 MA	1000 ohms 250 ohms	**LS-2 10.00**
LS-96	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	500 MA 1 amp.	90 ohms 22.5 ohms	**CC-1 50.00**
LS-980	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	400 MA 800 MA	90 ohms 22.5 ohms	**LS-4 30.00**
LS-98	Swinging choke	8-40 hy	400 MA	90 ohms	**LS-4 30.00**
LS-99	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	1 amp. 2 amp.	50 ohms 12.5 ohms	**CC-2 75.00**
LS-105	Swinging choke	8-40 hy	1 amp.	50 ohms	**CC-2 75.00**
LS-102	Modulation reactor	50 hy	350 MA	250 ohms	**CC-1 50.00**
LS-103	Modulation reactor	50 hy	500 MA	175 ohms	**CC-2 70.00**
LS-104A	Modulation reactor	50 hy	1.3 amp	75 ohms	**Spec. 350.00**

UTC HIPERM ALLOY TRANSFORMERS

The UTC Hiperm Alloy audio and power transformers are specifically designed for portable and compact high fidelity service. The frequency characteristic of the Hiperm Alloy audio units is uniform from 30 to 20,000 cycles. The outer case is of high conductivity alloy finished in high polish black anodic. Through the use of tapped metallic inserts, these transformers can be mounted with the terminals either up or down, and with no waste space. A hum balanced coil structure is used on all audio units to insure minimum pickup. The electrostatic shields are brought out to separate terminals on the terminal strip.

The H-1 case units weigh 1¾ lbs. and are 2" x 2⅜" x 3" high with 1⅜" mtg. centers. The H-2 case units weigh 2¼ lbs. and are 2⅞" x 3⅝" x 3¾" high with 2" x 2¾" mtg. centers.



PLATE, CRYSTAL AND PHOTOCELL TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-111	Crystal microphone or pickup, to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 $14.00
HA-112	Photocell, high-mu triode, diode or over-biased detector to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 14.00
HA-113	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 13.50
HA-114	Push pull low level plates to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 14.00
HA-133	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 13.50
HA-134	Push-pull 89's or 2A3's to line	5,000 to 10,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-2 15.00
HA-135	Push-pull 2A3's to voice coil	3,000 to 5,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	H-2 14.00
HA-136	Portable transmitter output, push-pull 53's or single 6F6	7,000 to 10,000 ohms	5,000, 10,000 ohms	H-1 15.00

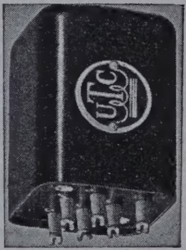
POWER TRANSFORMERS

Type No.	Primary Voltage 50/60 Cycles	High Voltage	Filament Windings	Case No. List Price
HP-122	115	220-0-220 15 MA	6.3 V.C.T.-.5A 6.3 V C.T.-1.2A	H-1 $10.00
HP-123	115	275-0-275 35 MA	6.3 V.C.T.-.5A 6.3 V.C.T.-2A	H-2 15.00

FILTER AND AUDIO CHOKES

Type	Inductance	DC Current	DC Resistance	Case No. List Price
HC-115	Series-400 hy Parallel-100 hy	2.5 MA 5 MA	7,000 ohms 1,750 ohms	H-1 $9.50
HC-116	Series-600 hy Parallel-150 hy	8 MA 16 MA	4,000 ohms 1,000 ohms	H-2 15.00
HC-117	60 hy	15 MA	3,000 ohms	H-1 9.50
HC-127	60 hy	40 MA	1,000 ohms	H-2 15.00
HC-128	Series 50 Hy. Parallel 12.5 Hy.	50 MA 100 MA	500 125	H-2 15.00

UTC ULTRA COMPACT AUDIO UNITS



The UTC Ultra Compact audio units are small, light-weight units ideal for remote pickup and similar equipment. High fidelity is obtainable in all individual units, the frequency response being ± 2 DB from 30 to 20,000 cycles, except A-11, A-21, A-25 (50-10,000 cycles). All units employ true hum balancing coil structures, which combined with a high conductivity outer case, afford a maximum of inductive shielding.

Ultra Compact audio units weigh 5½ ounces and have overall dimensions 1 7/16" x 1 7/16" x 1 15/16". Mounting dimensions are 1⅛" between centers, top and bottom.

Type No.	Application	Primary Impedance	Secondary Impedance	List Price
A-10	Low impedance mike, pickup, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	50,000 ohms	$11.00
A-11	Line to grid, trialloy shielding for low pickup	50, 200, 500	50,000 ohms for 1 or 2 grids	12.00
A-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125, 2500, 250, 333, 500 ohms	80,000 ohms overall, in two sections	11.00
A-14	Dynamic microphone to one or two grids	30 ohms	50,000 ohms overall, in two sections	10.00
A-16	Single plate to single grid	8,000 to 15,000 ohms	60,000 ohms, 2:1 turn ratio	9.00
A-17	Single plate to single grid	As above, will carry 8 MA DC	60,000 ohms 2:1 turn ratio	$11.00
A-18	Single plate to two grids	8,000 to 15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	10.00
A-19	Single plate to two grids	As above, will carry 8 MA DC	80,000 ohms 2.3:1 turn ratio	13.00
A-20	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	11.00
A-21	Mixing, trialloy shielding for low pickup	50, 200, 500	50, 200, 500	12.00
A-24	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	11.00
A-25	Single plate to multiple line	As above, will carry 8 MA DC	50, 125, 200, 250, 333, 500 ohms	10.00
A-26	Push pull low level plates to multiple line	8,000 to 15,000 ohms each side	50, 125, 200, 250, 333, 500 ohms	11.00
A-27	Crystal microphone to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	11.00
A-30	Audio choke, 300 henrys @ 2 MA 6000 ohms D.C., 75 henrys @ 4 MA 1500 ohms D.C., inductance with no D.C. 450 henrys			7.50

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-100	Low impedance mike, pickup, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	60,000 ohms in two sections	H-1 $14.00
HA-100X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 18.00
HA-101	Low impedance mike, pickup, or multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	120,000 ohms overall, in two sections	H-1 16.00
HA-101X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 20.00
HA-103A	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	H-1 16.00
HA-108	Mixing, low impedance mike, pickup, or multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 14.00
HA-108X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 18.00
HA-130X	Three isolated lines or pads to one or two grids with tri-alloy internal shield	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	H-1 20.00

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-104	Single plate to P.P. grids like 2A3, 59, 46, 6L6	8,000 to 15,000 ohms	95,000 ohms; turn ratio 1.25:1	H-1 $14.50
HA-105	Single plate to single grid	8,000 to 15,000 ohms	60,000 ohms 2:1 turn ratio	H-1 10.00
HA-106	Single plate to push pull grids	8,000 to 15,000 ohms	135,000 ohms 1.5:1 ratio, each side	H-1 12.00
HA-107	Push pull plates to push pull grids	8,000 to 15,000 ohms	35,000 ohms each secondary 1.5:1 turn ratio overall	H-2 18.00
HA-137	Same as above, but medium level (+ 15DB)			H-1 16.00

OUNCER HIGH FIDELITY AUDIO UNITS

The new UTC OUNCER series represents the acme in compact quality transformer practice. These units are ideal for hearing aid, aircraft, glider, portable, concealed service, and similar applications. The overall dimensions are ⅞″ diameter by $1\frac{3}{16}$″ height, including lugs. Mounting is effected by two screws, opposite the terminal board side, spaced $\frac{13}{16}$″. Weight approximately one ounce. Units not carrying D.C. have high fidelity characteristics being uniform from 40 to 15,000 cycles. Items with D.C. in pri. and O-14 and O-15 are for voice frequencies from 150 to 4,000 cycles.

OUNCER HIGH FIDELITY AUDIO UNITS
(MAX. LEVEL 0 DB)

200 ohm balanced winding may be used for 250 ohms.

Type No.	Application	Pri. Imp.	Sec. Imp.	List Price
0-1	Mike, pickup or line to 1 grid	50, 200, 500	50,000	**$10.00**
0-2	Mike, pickup or line to 2 grids	50, 200, 500	50,000	**10.00**
0-3	Dynamic mike to 1 grid	7.5/30	50,000	**9.00**
0-4	Single plate to 1 grid	8,000 to 15,000	60,000	**8.00**
0-5	Single plate to 1 grid, D.C. in Pri.	8,000 to 15,000	60,000	**8.00**
0-6	Single plate to 2 grids	8,000 to 15,000	95,000	**9.00**
0-7	Single plate to 2 grids, D.C. in Pri.	8,000 to 15,000	95,000	**9.00**
0-8	Single plate to line	8,000 to 15,000	50, 200, 500	**10.00**
0-9	Single plate to line, D.C. in Pri.	8,000 to 15,000	50, 200, 500	**10.00**
0-10	Push pull plates to line	8,000 to 15,000 each side	50, 200, 500	**10.00**
0-11	Crystal mike or pickup to line	50,000	50, 200, 500	**10.00**
0-12	Mixing and matching	50,200	50, 200, 500	**9.00**
0-13	Reactor, 200 Hys.—no D.C.; 50 Hys.—2 MA. D.C., 6,000 ohms			**7.00**
0-14	50:1 mike or line to 1 grid	200	½ megohm	**10.00**
0-15	10:1 single plate to 1 grid	8,000 to 15,000	1 megohm	**10.00**

UTC VARITRAN CONTROLS

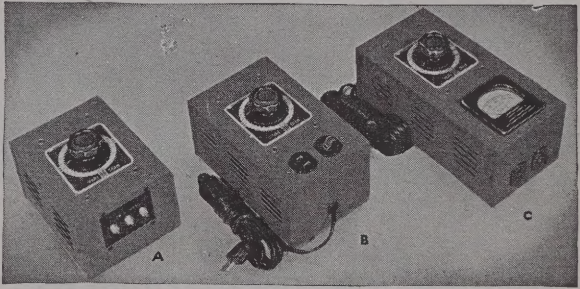
FOR CONTROLLING: Line Voltage, Rectifier Output, Motors, Lights, Heaters, etc.

- Variable voltage transformers for smooth voltage control. Varitran units employ a special non-fusing *roller* contact to contact the exposed turns of an auto-transformer winding. Rugged construction is employed, with *glass* insulation to assure dependability. Output of 115 Volt unit variable from 0-130 volts (230 Volt unit; 0-260 V.) smoothly without interrupting circuit. Output voltage independent of load.

- Maximum Amp. rating applies from 0 to 20 and 95 to 130 volts. Between 20 and 95 volts current rating tapers off to 50% of rated current at 65 V. point.

- Top and bottom mounting for laboratory bench or panel mounting. All units supplied mounted, with terminal strips as in Fig. A except V-1 (Fig. B) and V-1M (Fig. C).

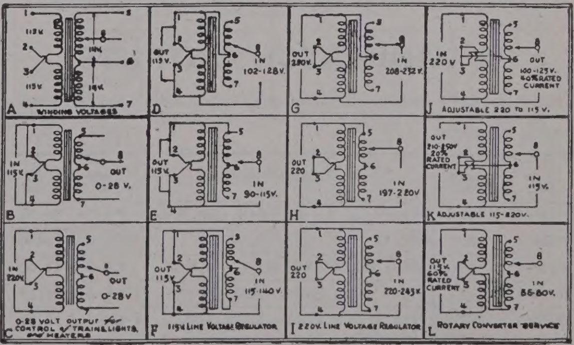
Type	Input Voltage	Output Voltage	Watts	Maximum Amps.	Approx. Wt. Lbs.	Net Price
V-0	115 volts	0-130	230	2	8	**$8.50**
V-0-B	230 volts	0-260	230	1	10	**10.50**
V-1	115 volts	0-130	570	5	11	**12.00**
V-1-M	115 volts	0-130	570	5	12	**20.00**
V-2	115 volts	0-130	570	5	11	**10.00**
V-2-B	230 volts	0-260	570	2.5	14	**12.50**
V-3	115 volts	0-130	850	7.5	14	**15.00**
V-3-B	230 volts	0-260	850	3.75	18	**20.00**
V-4	115 volts	0-130	1250	11	32	**22.00**
V-4-B	230 volts	0-260	1250	5.5	38	**28.00**
V-5	115 volts	0-130	1950	17	45	**35.00**
V-5-B	230 volts	0-260	1950	8.5	56	**40.00**
V-6	115 volts	0-130	3500	30	90	**65.00**
V-6-B	230 volts	0-260	3500	15	100	**80.00**



UNIVERSAL VARITRANS

These varitrans have a 115/230 V. primary winding and a smoothly variable secondary from 0-28 volts. Line voltage control can be effected for 102/140 V. or 197/243 volts to 115 V. or 220 volts respectively. The 28 volt secondary can also be used for low voltage lights, cauteries, trains, rectifiers, etc. The primary and secondary windings can be arranged to effect variable 220/115 or 115/220 volt arrangements. Appearance as in Fig. A above.

Type	Max. Amps. Output	Approx. Dimensions	Approx. Weight, Lbs.	Net Price
VL-0	1.5	3⅜ x 4¼ x 3⅞	5	**$7.00**
VL-1	3.5	4⅜ x 6 x 4⅜	7	**8.00**
VL-2	6	4⅜ x 6 x 5⅛	10	**10.00**
VL-3	11	4⅜ x 6 x 6⅞	15	**16.00**


A WINDING VOLTAGES
115V
115V
14V
14V
B
IN 115V
OUT 0-28 V.
C 0-28 VOLT OUTPUT for CONTROL of TRAINS, LIGHTS, and HEATERS
IN 220V
OUT 0-28V
D
OUT 115 V.
IN 102-128V.
E
OUT 115V.
IN 90-115V.
F 115V LINE VOLTAGE REGULATOR
OUT 115V
IN 115-140 V.
G
OUT 230V.
IN 208-232V.
H
OUT 220
IN 197-220V
I 220V. LINE VOLTAGE REGULATOR
OUT 220
IN 220-243V.
J ADJUSTABLE 220 TO 115 V.
IN 220 V
OUT 100-125 V. 40% RATED CURRENT
K ADJUSTABLE 115-220V.
OUT 210-250V 20% RATED CURRENT
IN 115V.
L ROTARY CONVERTER SERVICE
OUT 115V. 60% RATED CURRENT
IN 55-80V.

VARIMATCH TRANSFORMERS

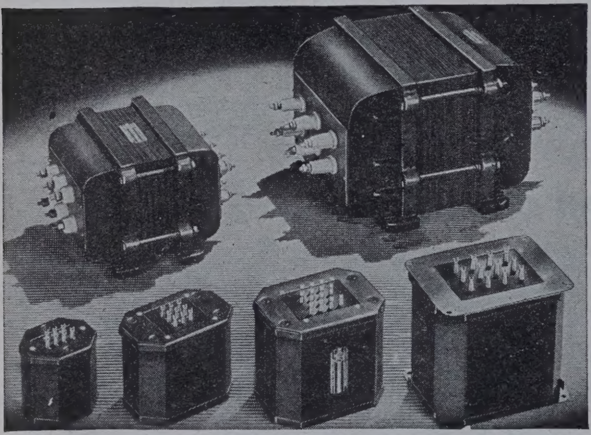
UTC VARIMATCH transformers are available in various types for every PA and transmitter requirement. Thru unique construction high efficiency and good response are obtainable on all terminations.

Pri. Ohms P to P	SECONDARY RF LOAD IMPEDANCES AVAILABLE											‡AUDIO LOAD IMPEDANCE	
2000	1070	1950	2150	3620	3920	4300	6350	6550	7900	8600	11400	200	350
3000	1620	2950	3240	5500	5900	6500	9400	10000	11800	13000	17000	300	520
4000	1380	1850	2160	2850	3450	4300	5500	7300	8650	12500	17400	250	400
5000	1730	2300	2700	3500	4300	5400	7000	9150	10800	15700	21600	300	500
6000	1070	2140	2180	2750	3620	4250	4300	5150	6350	8300	8600	200	370
7000	1250	2400	2500	3200	4280	5000	5050	6000	7300	9700	10000	230	430
8000	1440	2760	2900	3700	4900	5650	5800	6900	8400	10000	12000	270	500
9000	1620	2050	3100	3240	3900	4150	6200	6500	7750	9400	12500	300	550
10000	1800	2300	3500	4300	4600	6100	6900	7100	8600	10500	14000	330	600
12000	2070	2150	2750	4250	4320	5150	7250	8300	8700	12500	17400	370	400
14000	2440	3200	4900	6000	9700							430	
16000	2780	3700	5600	6900	11000							500	
18000	3140	4150	6300	7750	12500							550	
500*	1070	1950	2150	3620	3920	4300	6350	6550	7900	8600	11400		

* In some cases it is desired to match an RF load to the 500 Ohm output of a PA amplifier. The terminal arrangement noted will take care of this application.

‡ These impedances are suitable for PA applications. If a monitor speaker is desired, proper distribution of power is obtained by operating this low impedance into the high impedance primary of the speaker transformer.

Intermediate P.P. primary impedance values available in addition to those shown.



VARIMATCH DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No. List Price
PA-51AX	All single tubes like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	**PA-1** **$6.50**
PA-53AX	P. P. tube like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	**PA-2** **8.00**
PA-59AX	50, 200, 500 ohm line	805, 838, 203A, ZB-120, 100TH, 800, 55T, RK-18	**PA-2** **8.00**
PA-238AX	4-2A3, 4-45, 4-50, 2-211A, 2-845	4-805's, 4-838's, 4-203A's, 2-204's, 2-849's, 2-HF300's, 2-HF200's, 2-250TH's, 2-450TH's	**PA-3** **20.00**
PA-512	50, 200, 500 ohm line	2-250TH, 2-450TH, 2-HF200, 2-HF300, 2-204A, 2-849	**PA-3** **20.00**

VARIMATCH MODULATION TRANSFORMERS

Will match any modulator tube to any RF load

Here's the answer to your modulation problem. A line of transformers providing a universal range of load impedances for any modulator combination. The VARIMATCH transformer can never become obsolete. All units carry class C current and are supplied with charts giving impedance combinations.

Type No.	Max. Audio Watts	Max. Class C Input	Typical Modulator Tubes	Case	List Price
VM-0	12	25	30, 49, 79, 6A6, 53, 2A3, 6B5	**PA-1**	**$6.00**
VM-1	30	60	6V6, 6B5, 2A3, 42, 46, 6L6, 210	**PA-2**	**9.50**
VM-2	60	125	801, 6L6, 809, 4-46, T-20, 1608	**PA-3**	**14.00**
VM-3	125	250	800, 807, 845, TZ-20, RK-30, 35-T	**PA-4**	**20.00**
VM-4	300	600	50-T, 203A, 805, 838, T-55, ZB-120	**CA-1**	**35.00**
VM-5	600	1200	805, HF-300, 204A, HK-354, 250TH	**CA-2**	**80.00**

VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained from the LVM-1, LVM-2, LVM-3, and the actual impedances are as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5, 5, 5.5, 6, 6.25, 6.6, 7, 7.5, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75.

Type No.	Audio Watts	Primary Impedance	Secondary Impedance	Case No.	List Price
LVM-1	15	500 ohms	.2 to 75 ohms	**PA-1**	**$5.50**
LVM-2	40	500 ohms	.2 to 75 ohms	**PA-2**	**8.00**
LVM-3	75	500 ohms	.2 to 75 ohms	**PA-3**	**12.00**

PA VARIMATCH OUTPUTS

Universal units designed to match **any tubes** within the rated output power, to line or voice coil. Output impedance **500, 200, 50, 15, 8, 5, 3, 1.5** ohms.

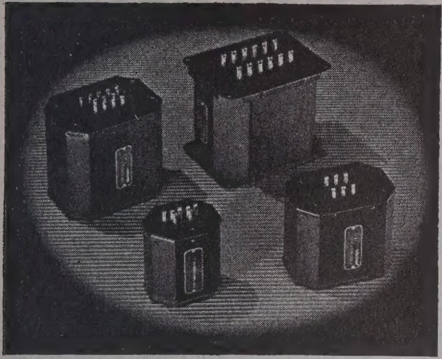
Type No.	Audio Watts	Typical Tubes	Case No.	List Price
PVM-1	**12**	**42, 43, 45, 47, 2A3, 6A6, 6F6, 25L6**	**PA-1**	**$6.00**
PVM-2	**30**	**42, 45, 2A3, 6L6, 6V6, 6B5**	**PA-2**	**9.50**
PVM-3	**60**	**46's, 50's, 300A's, 6L6's, 801, 807**	**PA-3**	**14.00**
PVM-4	**125**	**800's, 801's, 807's, 4-6L6's, 845's**	**PA-4**	**20.00**
PVM-5	**300**	**211, 242A's, 203A's, 838's, 4-845's, ZB-120's**	**CA-1**	**35.00**

VARIMATCH LINE AUTOFORMERS

UTC Varimatch Line Autoformers will match one to ten 500 ohm lines or LVM-500 ohm windings to the 500 ohm output of an audio amplifier. The LVM-10 to LVM-14 autoformers have impedances of 500, 250, 167, 125, 100, 83, 71, 62, 50.

Type No.	Audio Watts	Case No.	List Price
LVM-10	15	**PA-1**	**$5.50**
LVM-11	30	**PA-2**	**8.00**
LVM-12	60	**PA-3**	**12.00**

UTC PUBLIC ADDRESS AUDIO COMPONENTS



A quality line of popular-priced transformers incorporating conservative design and construction to assure dependability under the most adverse operative and climatic conditions. Uniform drawn cases finished in telephone black enamel with threaded inserts for top or bottom mounting. These units are professional in appearance and suited for continuous commercial service in amplifiers and transmitters. All items are poured with special moisture-proof sealing compound in addition to vacuum impregnation of coil structures. Items in same case size have approximately the same weights, as noted below.

PA-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. All audio components are linear, ±1½ DB from 60 to 8,500 cycles. 200 ohm windings on input transformers are balanced and may be used for 250 ohm circuits.

OVERALL DIM., IN.				Mtg. Dim.		Weight Lbs.
Case	L	W	H	L	W	
PA-1	2½	3	3	$1\frac{13}{16}$	...	2
PA-2	$3\frac{1}{16}$	4½	4½	1⅝	$3\frac{1}{16}$	5
PA-3	3⅝	4⅞	4¼	$1\frac{13}{16}$	3⅞	10
PA-4	6	$4\frac{9}{16}$	6	3¾	5¼	18
CA-1	7⅜	9	5½	...	...	28
CA-2	11	11	9	...	...	83

INPUT TO GRID TRANSFORMERS

PA-1 CASE

Type No.	Application	Primary Impedance Ohms	Secondary Impedance Ohms	List Price
PA-131	1 plate to 1 grid	8,000/15,000	90,000 3:1 ratio	$6.00
PA-132	1 plate to 2 grids	8,000/15,000	160,000 centertapped 2:1 ratio each side	6.50
PA-133	2 plates to 2 grids	8,000/15,000	30,000 each side 1.75:1 ratio each side	8.00
PA-134	Line to 1 grid hum-bucking	50, 200, 500	100,000	8.00
PA-135	Line to 2 grids hum-bucking	50, 200, 500	150,000 overall	8.50
PA-235	Line to 1 or 2 grids. hum-bucking; multiple alloy shielded for low hum pick-up	50, 200, 500 ohms	80,000 overall	11.00
PA-136	Single plate and low impedance mike or line to 1 or 2 grids. Hum-bucking	8,000/15,000 50, 200, 500	120,000 overall	8.50
PA-233	PP 6C5, 56, similar triodes to AB 45's, 2A3's, 6L6's, etc.	8,000/15,000	8,000 .9:1 ratio	7.00
PA-333	PP 6C5, 56, similar triodes to fixed bias 6L6's	8,000/15,000	2,500 .5:1 ratio	7.00
PA-433	PP 45, 2A3, similar tubes to fixed bias 2 or 4 6L6's	5,000	1,250 .5:1 ratio PA-2 case	7.50

MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

PA-1 CASE

Type No.	Application	Pri. Imp. Ohms	Sec. Imp. Ohms	List Price
PA-137	Mixing	50, 200, 500	50, 200, 500	$6.50
PA-140	Triode plate to line	8,000/15,000	50, 200, 500	7.50
PA-141	PP triode plates to line	8,000/15,000	50, 200, 500	8.50

VARITONE UNITS

The UTC VARITONE is a revolutionary audio device incorporating a transformer and frequency response corrective network. Using the VARITONE, tone correction can be effected for defects in acoustic conditions or overall audio response from microphones, pickups, loud speakers, etc. It is also possible to produce new tonal effects from phonograph recordings or radio reception, bringing back notes which would be practically lost otherwise. Due to the high equalization obtainable, an additional stage of amplification is sometimes necessary if the equalizer is to be used at maximum setting. The VT-1 and VT-2 require an external 50,000 ohm potentiometer as the control device.

Type No.	Matching	Equalization	List Price
VT-1	Triode plate, low impedance mike or line—to 1 or 2 grids	High end, low end, or both	$10.00
VT-2	Connects across triode plate or low impedance mike or line	High end, low end, or both	8.00
VT-10	Band pass filter for amateur service removes unnecessary low and high frequencies, reducing QRM, increasing efficiency and intelligibility. Connects in plate circuit of triode.		12.00

OUTPUT TRANSFORMERS

Secondary Impedances 500, 200, 50, 16, 8, 5, 3, 1.5 ohms

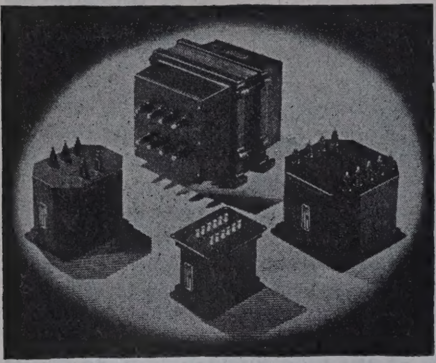
Type No.	Imped. P.P. Ohms	Typical Tubes	Case	List Price
PA-15	8,000	45's, 50's, 6F6 triodes	**PA-2**	$7.00
PA-16	3,000/5,000	2A3's, 6A5G's	**PA-2**	7.00
PA-19	6,000/10,000	6B5, 6A6, 6F6, 89, 46	**PA-2**	7.00
PA-710	14,000/20,000	10's, 47's, 2A5 pentodes	**PA-2**	7.00
PA-2L6	6,600	6L6's self bias	**PA-3**	12.00
PA-4L6	3,300/3,800	2-6L6's, AB2 or 4-6L6's AB	**PA-4**	18.00

COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 volts 50/60 cycles. *Tapped for either voltage.
¶ Replaces former transformer types PA-22, PA-425 and PA-426.

Type No.	High Voltage	DC. MA.	Fil. 1	Fil. 2	Fil. 3	Fil. 4	Case No. List Price
¶PA-422	435-365-0 365-435 125-0-125	125 25	5V-3A	5V-2A	6.3 VCT-3A	2.5 VCT-5A	**PA-3** **$12.50**
PA-428	500-0-500 80-0-80	250 100	5V-3A	5V-2A	6.3 VCT-4A	*6.3 VCT-3A 2.5 VCT-3A	**PA-4** **17.00**
PA-429	600-525-0-525-600	250	5V-3A	6.3 VCT-3-A	*7.5 VCT-3A 6.3 VCT-3A		**PA-4** **18.00**
PA-431	500-400-0-400-500 80-0-80	500 100	5V-3A	5V-2A	6.3 VCT-5A	6.3 VCT-3A	**CA-1** **27.00**

NEW COMMERCIAL TYPE POWER SUPPLY COMPONENTS



The new UTC PA power transformers and chokes have been designed to commercial standards. Temperature rise and insulation requirements are in accordance with the conservative specifications of the A.I.E.E. and Fire Underwriters. Ratings are conservative, for continuous duty, and suitable for all commercial and amateur applications. All items are vacuum impregnated in addition to sealing with special insulating compound. Rugged ceramic bushings are used for high voltage terminals.

These transformers and reactors are designed for temperature rise less than 55 degrees C., and are tested for breakdown on all windings at twice working voltage plus 1,000 volts. In addition, plate transformers are given a surge test at 2½ times normal applied voltage using a 500 cycle supply. In view of the conservative ratings and manufacturing procedure, these units are suitable for use on most types of government and standard commercial communication equipment. However, these same quality features make these units ideal for amateur transmitter equipment and also for quality PA units.

HIGH POWER PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50/60 cycles. For reduced power secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V. Pri. is used on 110 volts.

Type No.	High Voltage	D.C. Voltage	D.C. MA	Case No.	List Price
PA-300	625-515-0-515-625	500/400	200	**PA-3**	$12.00
PA-301	580-530-300-0-300-530-580	475/425/250	500	**PA-4**	17.00
PA-302	950-750-0-750-950	760/610	325	**PA-4**	20.00

Type No.	High Voltage	D.C. Voltage	D.C. MA.	L	W	H	Wt. lbs.	List Price
PA-303	1500-1235-400-0-400-1235-1500	1250/1000 300	300 175	8	7½	5½	32	$30.00
PA-304	1500-1235-0-1235-1500	1250/1000	800	14	11	9¼	118	80.00
PA-305	2400-1750-0-1750-2400	2000/1500	300	10	7½	5½	50	45.00
PA-306	2400-1750-0-1750-2400	2000/1500	500	14	11	9¼	120	80.00
PA-307	3500-3000-2400-0 2400-3000-3500	3000/2500/2000	300	13	11	9¼	110	75.00
PA-308	3500-3000-2400-0-2400-3000-3500	3000/2500/2000	500	15	11	9¼	140	95.00
PA-309	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	1000	17	14	11¼	210	165.00
PA-310	4600-4050-3500-0-3500-4050-4600	4000/3500/3000	600	15	14	11¼	168	125.00
PA-311	1500-1235-0 1235-1500	1250/1000	500	10	7½	5½	50	45.00

UNIVERSAL BIAS TRANSFORMERS

Primary 115 V. 50/60 cycles. No filament windings.

Type No.	D.C. Voltage	D.C. Ma.	Case No. List Price
PA-315	Tapped for any voltage from 15 to 100 V. within 6%	250	**PA-2** $10.00
PA-316	Tapped for any voltage from 75 to 400 V. within 6%	250	**PA-4** 17.00

VARIPOWER AUTO-FORMERS

Designed for line voltage control, filament voltage control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the **tube socket** to within 2½% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

Type No.	Watts Output	Dimensions	Weight Lbs.	List Price
VA-1	150	4¾ x 3¼ x 3½	6	$7.00
VA-2	250	4¾ x 4½ x 3½	9	9.00
VA-3	500	5½ x 4½ x 4	11	12.00
VA-4	1000	5½ x 6 x 4	19	18.00
VA-5	2000	7 x 6 x 5¾	25	25.00

LOW POWER FILTER CHOKES

Type No.	Inductance Henrys	D.C. MA	D.C. res. Ohms	Case No.	List Price
PA-40	10	200	110	**PA-2**	$5.50
PA-41	5-25	200	100	**PA-2**	5.50
PA-44	30	100 max.	375	**PA-2**	5.50
PA-45	250	15 max.	4500	**PA-1**	5.50
PA-48C	100	50 ma.	2500	**PA-1**	5.50

SMOOTHING CHOKES

Tapped for humbucking circuit. Commercial safety factors. Inductance rating at max. DC.

Type No.	Inductance Henrys	D.C. M.A.	D.C. res. Ohms	Case No.	List Price
PA-100	12	150	115	**PA-2**	$6.00
PA-102	12	200	105	**PA-3**	9.00
PA-104	12	300	90	**PA-4**	14.00
PA-108	10	500	60	**CA-1**	25.00
PA-1S	10	1000	50	**CA-1**	40.00

SWINGING INPUT CHOKES

Type No.	Inductance Henrys	D.C. M.A.	D.C. res. Ohms	Case No.	List Price
PA-101	5-25	150	115	**PA-2**	$6.00
PA-103	5-25	200	105	**PA-3**	9.00
PA-105	5-25	300	90	**PA-4**	14.00
PA-109	5-25	500	60	**CA-1**	25.00
PA-1C	5-25	1000	50	**CA-1**	40.00

FILAMENT TRANSFORMERS

Primary for 105, 115, 220, 230 volts, 50/60 cycles. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

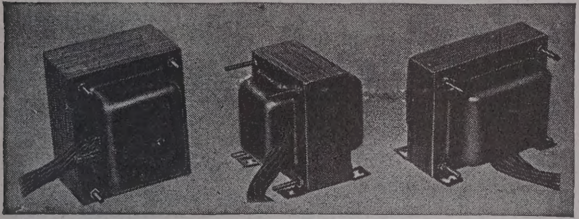
*Two Windings.

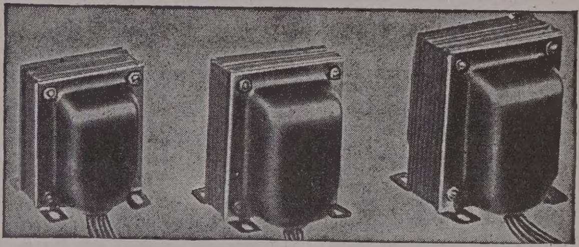
Type No.	Sec. Volts C. T.	Sec. Amps.	Working Voltage	Test Voltage	Case No.	List Price
PA-34	2½	10	2500	6000	**PA-2**	$7.50
PA-120	2½	10	5000	11000	**PA-3**	10.00
PA-121	5	22	5000	11000	**PA-3**	14.00
PA-122	7.5/6.3	8	1500	4000	**PA-3**	12.00
PA-124	10	10	1500	4000	**PA-3**	12.00
PA-125	14/12/11	10	1500	4000	**PA-3**	14.00
PA-126	*14/11/10 14/11/10	10 10	1500	4000	**PA-4**	22.00

RADIO SET REPLACEMENT TRANSFORMERS

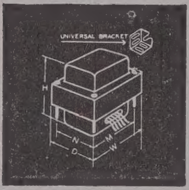
The new UTC replacement type transformers represent the culmination of years of development in this field. All units are vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolysis. Shells and brackets are finished in attractive high lustre black enamel.

The new UTC shells and universal brackets employed make possible a latitude in mounting dimensions never approached heretofore. Using Varitap coil construction a minimum number of transformers have been developed to cover any requirement in the replacement field.

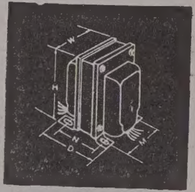




Through unique construction the five UTC Varitap Duplicate replacement transformers will service as many types of radio receivers as the 15 or 20 units more customarily employed for such service. The universal feet may be used for upright or horizontal mounting, or eliminated for flush mounting.



UTC vertical power transformers are unusually attractive in appearance, having smooth drawn cases finished in high lustre black enamel. The Varitap coil structure assures flexibility of application and permits the three units described to take the place of 5 to 8 units customarily employed for equivalent service.



VARITAP DUPLICATE REPLACEMENT POWER TRANSFORMERS

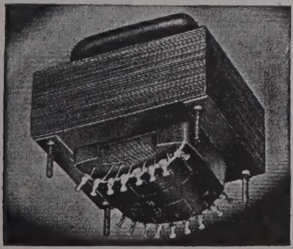
Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt Lb.	List Price
R-1	325-0-325 40MA	5V-2A	6.3 VCT-2A or 2.5-VCT-4A		3	2½	2¾	2½	2	2½	$3.75
R-2	350-0-350 70MA	5V-3A	6.3 VCT-2.5A or 2.5-VCT-8A		3⅜	2⅞	3	2$\frac{13}{16}$	2¼	3¼	4.50
R-3	350-0-350 95MA	5V-3A	6.3 VCT-4.5A or 2.5-VCT-4.5A	2.5 VCT -9A	3¾	3⅛	3⅝	3⅛	2½	6½	5.50
R-4	375-0-375 120-MA	5V-4A	6.3 VCT-5A or 2.5-VCT-5A	2.5 VCT -15A	4½	3¾	3¾	3¾	3	6½	6.50
R-5	385-0-385 180-MA	5V-4A	6.3 VCT-4A or 2.5-VCT-6A	6.3 VCT -5A	4½	3¾	4½	3¾	3	8½	8.00

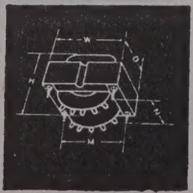
VERTICAL SHIELDED POWER TRANSFORMERS FOR RECEIVERS AND AMPLIFERS

Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt Lb.	List Price
R-54	300-0-300 50MA	5V-2A	6.3 VCT-2A or 2.5 VCT-5A		2½	2½	3¼	2	1¾	2½	$4.00
R-11	350-0-350 75MA	5V-3A	6.3 VCT-3A or 2.5-VCT-3A	2.5 VCT -8A	3	3¼	3½	2¼	2¼	4	5.75
R-12	375-0-375 100-MA	5V-3A	6.3 VCT-4A or 2.5-VCT-4A	6.3 VCT -2A or 2.5 VCT -8A	3¼	3⅝	4	2½	2½	6½	6.50
R-13	425-0-425 200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT -3A or 2.5 VCT -12A	3⅞	4½	4⅝	3	3⅝	8½	9.50

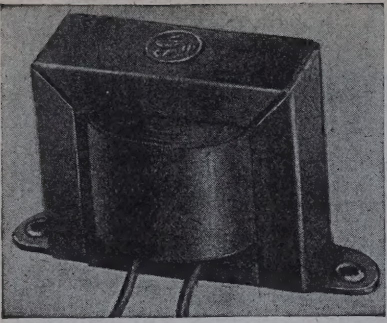
VARITAP FLUSH TYPE POWER TRANSFORMERS

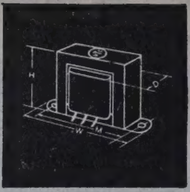
The UTC flush type transformers are husky units designed for low temperature rise and good regulation. By employing a Varitap universal coil structure, (brought out to sturdy lugs) the five units described take the place of 12 to 15 units normally found in a flush type series.





Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil 2	Dimensions, In. W	D	H	M	N	Wt Lb.	List Price
R-6	300-0 300 50MA	5V-2A	6.3 VCT-2A or 2.5-VCT-5A		3	2½	3	2½	2	2½	$3.75
R-7	350-0-350 75MA	5V-3A	6.3 VCT-3A or 2.5-VCT-3A	2.5 VCT -8A	3⅜	2⅞	3¼	2$\frac{13}{16}$	2¼	3	4.75
R-8	375-0-375 100-MA	5V-3A	6.3 VCT-4A or 2.5 VCT-4A	2.5 VCT -10A	3¾	3⅛	3¾	3⅛	2½	5½	5.75
R-9	400-0-400 125-MA	5V-3A	6.3 VCT 4A or 2.5-VCT-4A	6.3 VCT -2A or 2.5 VCT -10A	4½	3¾	4	3¾	3	6½	6.75
R-10	425-0-425 200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT -3A or 2.5 VCT -12A	4½	3¾	4¾	3¾	3	8½	8.50

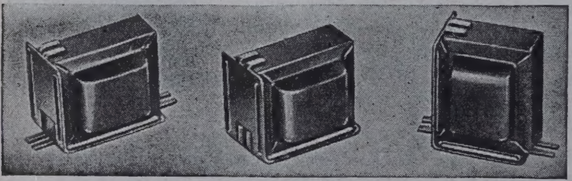




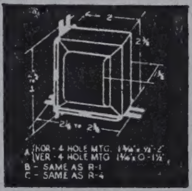
UTC filter chokes are conservatively designed and rated. Standard black enamel mounting channels are employed. Coils are completely sealed against adverse humidity conditions.

FILTER AND AUDIO CHOKES

Type No.	Induct. Hys.	Current	Resistance Ohms	Dimensions, Ins.				Wgt. Lbs.	List Price
				W	D	H	M		
R-55	10	35MA	300	2½	1⅜	1⅜	2⅛	½	$1.10
R-14	12	40MA	250	2⅞	1⅜	1 11/16	2⅜	¾	1.35
R-15	15	30MA	450	2⅞	1⅜	1 11/16	2⅜	¾	1.35
R-16	20	30MA	600	2⅞	1⅜	1 11/16	2⅜	¾	1.35
R-17	25	30MA	850	3 5/16	1⅝	2	2⅞	1	1.80
R-18	10	75MA	250	3 5/16	1⅝	2	2⅞	1	1.80
R-19	15	100MA	450	3¾	1¾	2 5/16	3¼	1½	2.50
R-20	8	160MA	100	4⅛	2	2⅝	3⅝	2½	2.75
R-21	5/25	160MA	100	4⅛	2	2⅝	3⅝	2½	2.75
R-22	500	5MA	4000	3 5/16	1⅝	2	2⅞	1	2.50



The Varitap Duplicate audio units represent the acme in replacement transformer development. The units are extremely attractive, the double shells and universal mounting brackets being finished in high lustre black enamel. The figure A units use the new UTC universal bracket. This bracket makes possible four hole horizontal or vertical mounting and two hole, channel type, horizontal or vertical mounting. The coils of these units, in addition to efficient design and mechanical shielding, are vacuum impregnated and completely sealed with a special compound to assure complete protection against adverse climatic conditions.



VARITAP DUPLICATE AUDIO TRANSFORMERS AND FILTER CHOKES

(Completely Shielded Units, Universal Mtg.)

Type No.	Application	Description	Fig.	Wgt. Lbs.	List Price
R-23	1 plate* to 1 grid	3½:1 ratio	A	1	$2.50
R-24	1 plate* to 2 grids	2:1 ratio	A	1	2.60
R-25	2 plates* to 2 grids	1.5:1 stepup for class A triodes 1.5:1 stepdown for 6L6's, 2A3's, 2A5's, etc.	A	1¼	2.75
R-26	Driver, 1 plate to 2 grids	Single 42, 2A5, 6F6, 45, 46 to AB 6L6's, 42's, 2A5's, 6F6's, 46's	A	1¼	2.75
R-27	15 watt Universal Output	All tubes up to 15 watts to any voice coil from .1 to 30 ohms	A	1¼	2.50
R-28	35 watt Universal Output	All tubes up to 35 watts to any voice coil from .1 to 30 ohms	B	2½	2.50
R-29	Mike to grid	Single or double button mike or line to 1 grid	A	1¼	2.60
R-30	Filter choke	13 Hys—250 MA—100 ohms	C	7	7.00
R-31	Filter choke	10 Hys—80 MA—250 ohms	A	2½	2.25
R-32	Filter choke	10 Hys—150 MA—100 ohms	B	2¼	3.25

***Will match tubes like 27, 37, 56, 6C6 triode, 6C5. Can be used with high mu triodes with loss in low frequencies.**

UTC channel frame TROPICAL WETPROOF audios are excellently designed. In addition to good frequency range, coils are vacuum-pressure treated followed by the UTC MOULD SEAL process of WET PROOFING to prevent moisture absorption.

CHANNEL FRAME AUDIO TRANSFORMERS

Type No.	Application	Description	Dimen., Ins.				Wt. Lbs.	1st Price
			W	D	H	M		
R-33	1 plate* to 1 grid	4:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾	$1.80
R-34	1 plate* to 2 grids	2:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾	1.85
R-35	Mike to 1 grid	17:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾	2.25
R-53	Plate and mike to grid	3:1 and 17:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾	2.25
R-56	1 plate to 2 grids	2:1 ratio	3 5/16	1⅝	2	2⅞	1	2.25
R-57	1 plate to 2 grids	2½:1 ratio	4⅛	2	2⅝	3⅝	2½	3.50
R-36	Driver	30, 49, etc. to class B 19, 49, 79, 89 grids	2⅞	1⅜	1 11/16	2⅜	¾	2.25
R-37	R.F. Output	Class B 19, 49, 79, 89 plates to 3500 and 5,000 ohms	2⅞	1⅜	1 11/16	2⅜	¾	2.35
R-58	5 watt Universal output	Any single tube to any voice coil, .1 to 30 ohms	2½	1⅜	1⅜	2⅛	½	1.85
R-38A	6 watt Universal	Any tubes up to 6 watts to any voice coil .1 to 30 ohms	2½	1⅜	1⅜	2⅛	¾	1.85
R-59	10 watt Universal	Any tubes up to 10 watts to any voice coil .1 to 30 ohms	2⅞	1⅜	1 11/16	2⅜	1	2.10
R-60	15 watt Universal	Any tubes up to 15 watts to any voice coil .1 to 30 ohms	3 5/16	1⅝	2	2⅞	1½	2.25
R-39	10 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	2⅞	1⅜	1 11/16	2⅜	¾	2.35
R-40	25 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	4⅛	2¼	2⅝	3⅝	2¼	3.65

*Will match tubes like 27, 37, 56, 6C6 triodes, 6C5. Can be used with high mu triodes with loss in low frequencies.

CHANNEL FRAME FILAMENT TRANSFORMERS

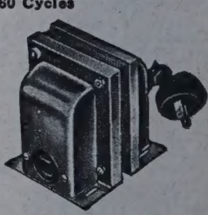
Pri. 115 V.—50/60 Cycles

Type No.	Secondary	Dimensions, Inches				List Price
		W	D	H	M	
FT-1	2.5 V. C. T.-3A	2⅞	1⅜	1 11/16	2⅜	$1.75
FT-2	6.3 V. C. T.-1.2A	2⅞	1⅜	1 11/16	2⅜	1.75
FT-3	2.5 V. C. T.-6A	3 5/16	1⅝	2	2⅞	2.00
FT-4	6.3 V. C. T.-2.5A	3 5/16	1⅝	2	2⅞	2.25
FT-5	2.5 V. C. T.-10A	3¾	1¾	2 5/16	3¼	2.25
FT-6	5 V. C. T.-3A	3¾	1¾	2 5/16	3¼	2.25
FT-7	7.5 V. C. T.-3A	3¾	1¾	2 5/16	3¼	2.25

STEP DOWN AUTO-TRANSFORMERS

220-240 to 110-120 Volts—50/60 Cycles

Type No.	Application	Wgt. Lbs.	List Price
R-41	85 watt capacity	4	$6.50
R-42	125 watt capacity	5	7.00
R-43	175 watt capacity	5½	8.50
R-44	250 watt capacity	6½	10.00
R-45	500 watt capacity	13	20.00
R-46	1000 watts, no cord	26	35.00



EXPORT VOLTAGE ADAPTERS

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

Type No.	Rating	Weight, Lbs.	List Price
R-48	150 watts	5½	$10.00

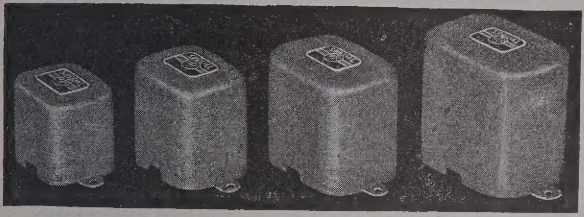
LINE VOLTAGE CORRECTORS

Auto-transformers complete with cord, plug and tap switch. Switch will effect 115 volts plus or minus 2½ volts output for any input voltage from 90 to 135 volts, 50/60 cycles.

Type No.	Rating	Weight, Lbs.	List Price
R-50	100 watts	4	$8.00
R-51	250 watts	5½	10.00
R-52	1000 watts	18	35.00

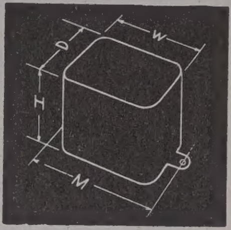
SPECIAL SERIES AUDIO TRANSFORMERS

UTC Special Series transformers represent unprecedented value. These items are specifically designed for amateur and popular-priced PA service. For commercial equipment the PA or LS series of units are recommended. The Special Series units are finished in a rich, commercial type gray crinkle enamel. A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chasis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the DC current in the class C stage and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases with top or bottom mounting and louvres for good ventilation.



CASE SIZES

Type No.	H	W	D	M	Weight Lbs.
G-1	1⅞	2	1¾	2 7/16	1
G-2	2 5/16	2⅜	1 15/16	2⅞	1½
G-3	2½	2¾	2⅛	3¼	2
G-4	2 15/16	3⅛	2 5/16	3⅝	3



CLASS A INPUT TRANSFORMERS

Type No.	Application	Ratio	Case No.	Net Price
S-1	1 plate* to 1 grid	3½:1	G-2	$2.10
S-2	1 plate* to 2 grids	2:1	G-2	2.40
S-3	1 plate* to 1 or 2 grids compact type	4:1 2:1 P.P.	G-1	1.95
S-4	1 plate*to 2 grids wide range response	1:1	G-3	3.30
S-5	Single or double button mike or line to 1 grid hum-bucking type	16:1	G-2	2.70
S-6	Single or double button mike or line to 1 grid, compact type	16:1	G-1	1.95
S-7	Single plate* and carbon mike to one or two grids	3:1 16:1	G-2	3.15

*Will match tubes like 56, 6C5, 6C6 triode, 77 triode, 37, etc. Can be used with high mu triodes with loss in low frequencies.

UNIVERSAL DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No. Net Price
S-8	All single tubes like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	G-3 $2.55
S-9	P. P. tubes like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	G-4 3.30
S-10	P. P. 56, 6C5, etc.	AB 45, 42, 2A3, 6L6	G-3 3.00
S-73	500 or 200 ohm line to all Class B grids up to 400 watts		G-4 3.30

MATCHING TRANSFORMERS

Type No.	Application	Pri. Ohms	Sec. Ohms	Case No. Net Price
S-11	Single 56, 6C6 triode, 6C5 or Similar tube to line.	10,000	200/500	G-2 $2.70
S-12	Line to speaker 15 watts	500, 2000, 4000	2, 4, 8, 15	G-2 3.00
S-13	Line to speaker 30 watts	500, 2000, 4000	2, 4, 8, 15	G-4 3.90

UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Tubes and Pri. Ohms	Sec. Ohms	Power	Case No. Net Price
S-14	Single tubes: **2500 ohms** for 2A3, 6A3, 6A5 G, 6B4 G, 6L6, 6Y6, 25L6 **4,000 ohms** for 2A5, 6F6 triode, 12A5, 25A6, 43, 45, 50, 71A **7,000 ohms** for 2A5, 6F6, 6K6, 20, 31, 33, 47 **10,000 ohms** for 6G6, 38, 41	2, 8, 15, 500	10 W	G-2 $2.85
S-15	P. P. tubes: **4,000 ohms** for 25L6, 6Y6G **5,000 ohms** for 2A3, 6A3, 6A5G, 6B4G, 45 **10,000 ohms** for 19, 7J6G, 30, 49, 89, 6Z7G, 6AC5G, 53. 6A6, 6N6, 6N7, 6B5	2, 8, 15, 500	12 W	G-2 3.00
S-16	**3,000 ohms** for 2A3, 6A3, 6A5G, 6B4G, AB **6,000-6,600 ohms** for 2A5-6F6-42 triodes AB, 46, 59, 6L6 **10,000 ohms** for 6B5, 6V6, 2A5-6F6-42 pentodes AB	2, 8, 15, 500	30 W	G-4 3.90
S-17	**3,300 ohms** for 4 6L6's, 4-46's **3,800 ohms** for 2 6L6's, AB2 **5,000 ohms** for 1608, 809	2, 8, 15, 500	55 W	G-5 4.80

COMBINED PLATE AND FILAMENT TRANSFORMERS

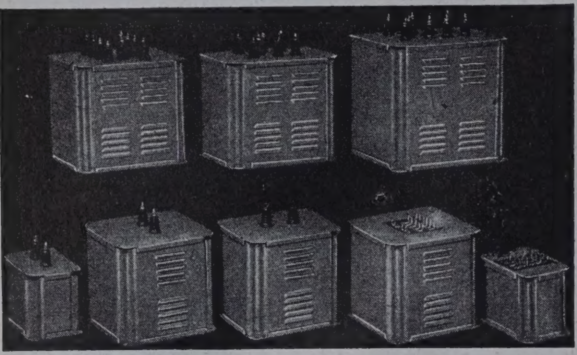
Primary 115 V.—50/60 Cycles

Type No.	High Voltage	D.C. Voltages *	Rectifier Fil.	Fil. No. 1	Fil. No. 2	Case No. Net Price
S-39	490-400-0-400-490 175 Ma.	400/310	5V.-3A.	2.5 V. C. T. 6A	6.3 V. C. T. 4A	G-7 $6.00
S-40	525-425-0-425-525 250 Ma.	400/310	5V.-3A.	6.3 V.C.T.- 3A	6.3 V.C.T.- 3A	G-7 6.00
S-41	600-0-600 200 Ma.	475	5V.-3A.	7.5V. tapped 6.3V-3A	6.3 V.C.T.- 2A	G-7 5.40
S-42	600-525-0-525-600 300 Ma..	480/400	5V.3A-	7.5V. tapped 6.3V.-3A	6.3 V.C.T.- 3A	G-8 7.20
S-43	525-0-525 450 Ma. 40-0-40 200 Ma.	400	5V.-3A 5V.-6A	6.3 V.C.T.- 2A	6.3 V.C.T.- 5A	G-9 9.90

*Based on two section filter, choke input.

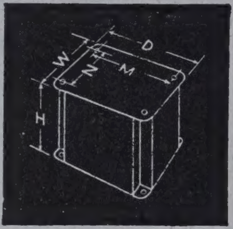
SPECIAL SERIES POWER EQUIPMENT

UTC Special Series power supply components are designed specifically for amateur and popular-priced PA service. The ratings are based on such applications and recommended for intermittent service. For commercial applications, PA or LS grade components should be employed. Tapped coil structures on power and bias supply transformers afford maximum flexibility, permitting a given transformer to be used with many circuits and types of tubes.



CASE SIZES

Type	H	W	D	M	N	Wt. Lbs.
G-5	3 7/8	3 1/8	4 9/16	3 7/8	2 7/16	4 1/2
G-7	5 3/8	4 9/16	5 9/16	4 27/32	3 25/32	9
G-8	5 3/8	5 1/2	5 1/2	4 25/32	4 3/4	13
G-9	6 1/8	5 5/16	6 13/16	6 3/32	4 19/32	18
G-10	6 1/8	6 3/16	6 11/16	5 15/16	5 13/32	24
G-11	7 1/8	6 9/16	7 3/8	6 21/32	5 29/32	31



FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Service	Inductance	Current	Resistance	Case No.	Net Price
S-23	Audio	500 Hy.	5 Ma.	4,500 ohms	G-2	$2.10
S-24	P.P. Choke	500 Hy. C.T.	3 Ma.	4,000 ohms	G-2	2.25
S-25	Filter	30 Hy.	30 Ma.	800 ohms	G-2	1.95
S-26	Filter	15 Hy.	60 Ma.	230 ohms	G-2	1.95
S-27	Filter	30 Hy.	75 Ma.	350 ohms	G-4	2.40
S-28	Filter	20 Hy.	100 Ma.	350 ohms	G-4	2.40
S-29	Filter	6 Hy.	175 Ma.	95 ohms	G-4	2.40
S-30	Swinging	5/25 Hy.	175 Ma.	95 ohms	G-4	2.40
S-31	Filter	15 Hy.	225 Ma.	120 ohms	G-5	3.15
S-32	Swinging	5/25 Hy.	225 Ma.	120 ohms	G-5	3.15
S-33	Filter	15 Hy.	300 Ma.	90 ohms	G-7	4.50
S-34	Swinging	5/25 Hy.	300 Ma.	90 ohms	G-7	4.50
S-35	Filter	15 Hy.	400 Ma.	85 ohms	G-8	6.60
S-36	Swinging	5/25 Hy.	400 Ma.	85 ohms	G-8	9.00
S-37	Filter	15 Hy.	550 Ma.	60 ohms	G-8	9.00
S-38	Swinging	5/25 Hy.	550 Ma.	60 ohms	G-8	9.00

UNIVERSAL BIAS TRANSFORMERS

Primary 115 V.—50/60 Cycles **No Filament Windings**

Type No.	Application	D.C. Current	Case No. Net Price
S-51	Will supply any bias voltage from 15 to 100 volts D.C. within approximately 6% of desired value.	200 Ma.	G-5 $5.40
S-52	Will supply any bias voltage from 75 to 400 volts D.C. within approximately 6% of desired value.	200 Ma.	G-7 7.20

UNIVERSAL OUTPUT TRANSFORMERS

Any modulator tubes to any RF load.

Type No.	Audio Power	Case No.	Net Price
S-18	12 watts	G-3	$3.15
S-19	30 watts	G-4	4.80
S-20	55 watts	G-5	6.90
S-21	110 watts	G-7	9.60
S-22	250 watts	G-9	15.00

PLATE TRANSFORMERS

Primary 115 V.—50/60 Cycles

Type No.	High Voltage	D.C. Voltages*	D.C. Current	Case No. Net Price
S-44	575-525-0-525-575	470/430	500 Ma.	G-9 $9.30
S-45	900-750-0-750-900	750/620	200 Ma.	G-8 7.20
S-46	1000-750-0-750-1000	825/600	300 Ma.	G-9 9.00
S-74	1175-500-0-500-1175 Duplex rectifier	1000 400	†150 MA ‡150 MA	G-10 9.90
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300 Ma.	G-10 11.70
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500 Ma.	G-11 16.80
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300 Ma.	G-11 16.20
S-50	3000-2500-0-2500-3000	2625/2175	300 Ma.	G-11 22.50

*Based on two section filter for 200 Ma. and 300 Ma. units, single section filter for 500 Ma. units, both choke input.

Note: Using a bridge rectifier circuit **D.C. Voltages** shown are **doubled** but available **D.C. current** reduced to **half.** S-49 and S-50 are not suitable for bridge rectifiers.

†200 MA if used alone. ‡ 250 MA if used alone.

SINGLE SECONDARY FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Secondary Volts	Secondary Current	Insulation	Case No.	Net Price
S-53	2.5 VCT	10 A.	1500 V.	G-3	$2.10
S-54	5 VCT	4 A.	2500 V.	G-3	2.10
S-55	6.3 VCT	3 A.	1,500 V.	G-3	2.10
S-56	7.5 VCT	3 A.	1,500 V.	G-3	2.10
S-57	2.5 VCT	10 A.	10,000 V.	G-5	3.00
S-58	2.5 VCT	20 A.	10,000 V.	G-5	3.60
S-59	5 to 5.25 VCT	13 A.	5,000 V.	G-5	3.00
S-60	5 to 5.25 VCT	22 A.	10,000 V.	G-7	6.60
S-61	7.5 VCT tapped 6.3 VCT	8 A.	3,000 V.	G-5	3.00
S-62	10 VCT	10 A.	3,000 V.	G-5	3.60
S-63	14 VCT tapped 12 VCT and 11 VCT	10 A.	5,000 V.	G-7	6.60

MULTIPLE SECONDARY FILAMENT WINDINGS

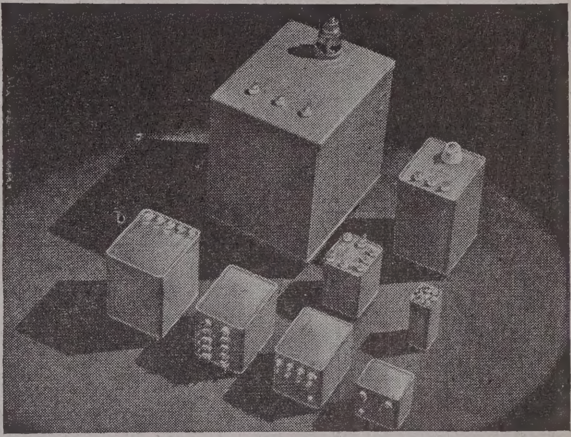
Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Fil. 1	Fl. 2	Fil. 3	Insulation V.	Case No.	Net Price
S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	3,000	G-5	$3.60
S-65	2.5 VCT-5A	5 VCT-4A	6.3 VCT-3A	3,000	G-5	3.60
S-66	2.5 VCT-10A	7.5 VCT-6.5A		3,000	G-5	3.60
S-67	5 VCT-6A	6.3 VCT-5A		3,000	G-5	3.60
S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	3,000	G-5	3.90
S-69	6.3 VCT-3A	7.5 VCT-6.5A		3,000	G-5	3.90
S-70	6.3 VCT-5A	6.3 VCT-5A		3,000	G-5	3.90
S-71	2.5 VCT-6A	2.5 VCT-6A	2.5 VCT-12A	10 000	G-7	6.60
S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	5,000	G-5	4.20

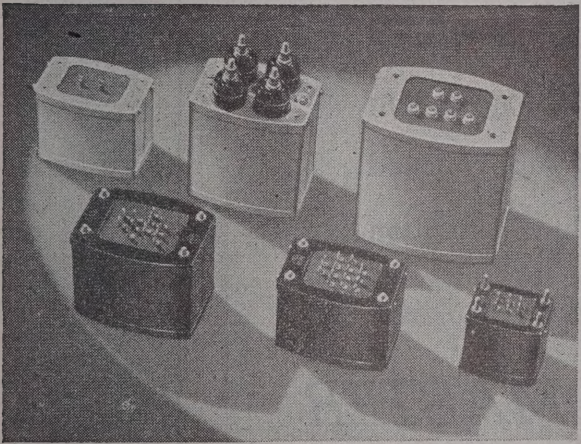
TRANSFORMERS AND REACTORS
For Radio and Other Electronic Devices

Hermetically Sealed Units

Compound-filled and hermetically sealed against the entrance of moisture. Designed to meet U. S. Navy salt water immersion tests. Standard hermetic case types range from very small up to units approximately 200 volt-amperes physical size. Special construction is employed for larger units.



Hermetically sealed units



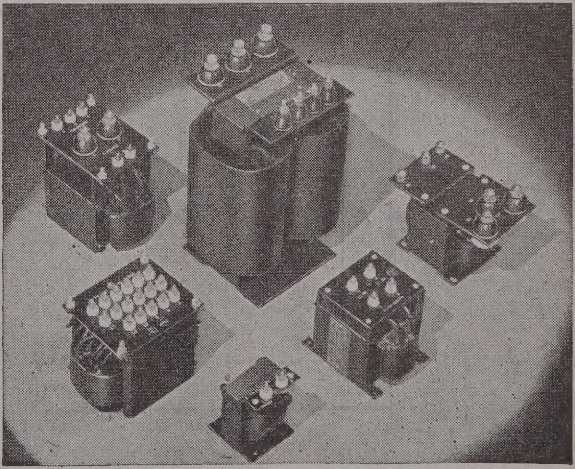
Conventional compound-filled units

Conventional Compound-filled Units

Not hermetically sealed. Moisture resistant, but not immersion-proof. Wide application in the Frequency-Modulation field. Top or bottom mounting for open or underdeck wiring. Standard case types include units up to 250 volt-amperes physical size. Larger units employ special construction.

Core-and-coil Units

Usually applied where moisture resistance is not a factor, and where size and weight must be kept to the minimum. Standard core laminations are utilized in core-and-coil units 15 kva and smaller (physical size). Larger units are built up from special parts and ratings above 15 kva require special laminations.



Core-and-coil units

Three general types of transformers and a complete line of reactors assembled from standard unit parts to meet specified requirements: **power**—with plate, and plate-and-filament units; **filament**—both conventional types and high-voltage units; **audio-frequency**—include microphone, input, interstage (or grid), modulation, and output types.

The line of reactors contains microphone, plate, filter (conventional or swinging), and modulation units.

No standard ratings are listed as being in stock, but standard parts are available for manufacturing to specifications. This method of production enables every transformer to be specially designed for its given application.

Write for Bulletin GEA-4280

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

HALLDORSON Replacement Transformers

POWER TRANSFORMERS

Cat. No.	Plate Voltage C.T.	5 V. Fil.	2.5 V. Fil.	6.3 V. Fil.	Tube Combinations	Mtg. Type	Dimensions H. W. D.	Mounting Centers	Wtg. Lbs.
51	700 V.— 70 M.A.	3 A.	10 A., C.T.		1-45, 47, 2A5; 5-24, 27, or 9-56, 57	S T	4" x3¼"x3⅜" 3¼"x3¾"x3⅛"	2½"x2⅛" Universal	5 4½
52	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 3.5 A., C.T. (3) 9 A., C.T.		2-45, 47, 2A5 2-45, 47, 2A5 5-24, 27, or 9-56, 57	S T U	4¾"x4" x4" 3¾"x4½"x3¾" 4" x4½"x3¾"	3" x2⅞" Universal 3¾"x2½"	8¾ 7¾ 7¾
53	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 12.25 A., C.T.		2-45, 47, 2A5 7-24, 27 or 12-56, 57	S T	4¾"x4" x3½" 3¾"x4½"x3¼"	3" x2⅝" Universal	9 8½
56	700 V.— 90 M.A.	3 A.	(1) 3.5 A., C.T. (2) 8.75 A., C.T.		2-45, 47, 2A5 5-24, 27, or 9-56, 57	S T	4¾"x4" x3⅝" 3¾"x4½"x3⅜"	3" x2⅝" Universal	7¼ 6¼
57	600 V.— 80 M.A.	(1) 3 A. (2) ½ A.,	10.5 A., C.T.		6-24, 27, or 10-56, 57	S T	4" x3¼"x3⅜" 3⅛"x3¾"x3⅛"	2½"x2⅛" Universal	5 4½
47	650 V.— 40 M.A.	2 A.	3.75 A., C.T.		1-2A5; 2-57, 58	M L	1¾"x3" x2½" 2⅜"x3" x2½"	2½"x2" Universal	2¼ 2½
48	650 V.— 40 M.A.	3 A.	(1) 1.75 A., C.T (2) 3.5 A.		1-47, 2A5 2-24, 27, or 3-56, 57	M L	2⅛"x3⅜"x2¾" 2⅞"x3⅜"x2¾"	2 13/16"x2¼" Universal	3¼ 3½
448	650 V.— 40 M.A.	3 A.	(1) 1.75 A., C.T., or 1.6 A., C.T. (2) 3.5 A., C.T.		1-47, 2A5 or 3-77, 6K7; 1-42, 6F6 2-24, 27, or 3-56, 57	M L	2⅛"x3⅜"x2¾" 2⅞"x3⅜"x2¾"	2 13/16"x2¼" Universal	3½ 3¾
476	650 V.— 40 M.A.	2 A.		1.6 A., C.T.		M L	1¾"x3" x2½" 2⅜"x3" x2½"	2½"x2" Universal	2¼ 2½
49	650 V.— 40 M.A.	3 A.	5.25 A., C.T.		2-24, 27, or 3-56, 57; 1-47, 2A5	M S	1⅞x"3" x2½" 3⅛"x2⅝"x2¾"	2½"x2" 2" x1¾"	2½ 2½
60	650 V.— 50 M.A.	3 A.	(1) 1.75 A., C.T. (2) 5.25 A.		1-47, 2A5 3-24, 27, or 5-56, 57	M L	2⅛"x3⅜"x2¾" 2⅞"x3⅜"x2¾"	2 13/16"x2¼" Universal	3½ 3¾
660	650 V.— 50 M.A.	3 A.	(1) 1.75 A., C.T., or 1.9 A., C.T. (2) 5.25 A., C.T.		1-47, 2A5, or 4-77, 6K7; 1-42, 6F6 3-24, 27, or 5-56, 57	M L	2⅛"x3⅜"x2¾" 2⅞"x3⅜"x2¾"	2 13/16"x2¼" Universal	3⅓ 3¾
61	700 V.— 60 M.A.	3 A.	7 A., C.T.		3-24, 27 or 6-56, 58; 1-47, 2A5	M S	2½"x3¾"x3⅛" 4" x3¼"x3⅜"	3⅛"x2½" 2½"x2⅜"	4½ 5
661	700 V.— 60 M.A.	3 A.	(1) 1.75 A., C.T., or 1.9 A., C.T. (2) 7 A., C.T.		1-47, 2A5, or 4-77, 6K7; 1-42, 6F6 4-24, 27 or 7-56, 58	M L	2½"x3¾"x3⅛" 3⅜"x3¾"x3⅛"	3⅛"x2½" Universal	4¾ 5¼
62	700 V.— 70 M.A.	3 A.	(1) 3.5 A., C.T. (2) 9 A.		2-47, 2A5 5-24, 27, or 9-56, 58	M S	2½"x3¾"x3⅛" 4" x3¼"x3¼"	3⅛"x2½" 2½"x2¼"	5 5½
662	700 V.— 70 M.A.	3 A.	(1) 3.5 A., C.T., or 2.5 A., C.T. (2) 9 A., C.T.		2-47, 2A5, or 6-77, 6K7; 1-42, 6F6 5-24, 27, or 9-56, 58	M L	2½"x3¾"x3⅛" 3¾"x3¾"x3⅛"	3⅛"x2½" Universal	5 5
63	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 10.5 A.		2-47, 2A5 6-24, 27, or 10-56, 57	M L	2⅝"x4⅛"x3 7/16" 3⅝"x4⅛"x3½"	3 7/16"x2¾" Universal	6 6½
663	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T., or 3.5 A., C.T. (2) 10.5 A., C.T.		2-47, 2A5, or 7-77, 6K7; 2-42, 6F6 6-24, 27, or 10-56, 57	M L	2⅝"x4⅛xx3 7/16" 3⅝"x4⅛"x3½"	3 7/16"x2¾" Universal	6¼ 6¾
64	700 V.—100 M.A.	3 A.	(1) 3.5 A., C.T. (2) 15 A.		2-47, 2A5 8-24, 27, or 15-56, 57	M L	2⅞"x4⅛"x3 7/16" 3⅝"x4⅛"x3½"	3 7/16"x2¾" Universal	7 7½
65	650 V.— 40 M.A.	3 A.		1.6 A., C.T.	3-77, 78, 6K7; 1-42, 6F6	M S L	2" x3" x2½" 3⅛"x2⅝"x2¾" 2¾"x3" x2½"	2½"x2" 2" x1¾" Universal	2½ 2¾ 2¾
66	650 V.— 50 M.A.	3 A.		2 A., C.T.	4-77, 78, 6K7; 1-42, 6F6	M S	2⅛"x3⅜"x2¾" 3½"x2⅞"x3¼"	2 13/16"x2¼" 2¼"x2⅛"	3½ 3¾
67	700 V.— 70 M.A.	3 A.		3 A., C.T.	5-77, 78, 6K7; 2-42, 6F6	M S	2¼"x3¾"x3⅛" 4" x3¼"x3⅜"	3⅛"x2½" 2½"x2⅛"	4¼ 5
68	700 V.—120 M.A.	3 A.		4.5 A., C.T.	10-76, 6C6, 6K7; 2-42, 6F6	M L	2½"x4⅛"x3 7/16" 3⅝"x4⅛"x3½"	3 7/16"x2¾" Universal	6 6½
58	700 V.—100 M.A.	3 A.		5 A., C.T.	12-76, 6C6, 6K7; 2-42, 6F6	S	4¾"x4" x3½"	3" x2⅝"	7½
59	800 V.—120 M.A.	3 A.	(1) 3.5 A., C.T. (2) 14.5 A., C.T.		2-47, 2A5 8-24, 27 or 14-56, 57	S	4¾"x4" x3¾"	3" x2⅞"	9
70	700 V.—100 M.A.	3 A.	6 A., C.T.	3.3 A.; C.T.	Including 77, 78, 6K7; 42, 6F6, 47 2A5, 24, 27, 56, 58	S L	4¾"x4" x3½" 3½"x4⅛"x3½"	3" x2½" Universal	8 8
80	800 V.—150 M.A.	3 A.		2.5 A., C T.	6J7, 6Y7, 2-6L6	S	4¾"x3⅞"x3¾"	3 1/16"x2⅞"	7¾
75	750 V.—180 M.A.	3 A.	6 A., C.T.	3.5 A., C.T.		M S L	2⅞"x4½"x3¾" 4¾"x3⅞"x3¾" 4⅛"x4½"x3¾"	3¾"x3" 3 1/16"x2 13/16" Universal	8 8 8
77	800 V.—200 M.A.	3 A.		5.5 A., C.T.		S	4¾"x3⅞"x3⅞"	3 1/16"x3"	9
74	745 V.—145 M.A.	3 A.		5 A., C.T.	6L6, 42, 6F6	S M L	4¾"x4" x3½" 2¾"x4½"x3¾" 3⅝"x4½"x3¾"	3" x2½" 3¾"x3" Universal	8¾ 8¾ 8¾
85	560 V.—50 M.A.			(1) 1.5 A. (2) .6 A.		L	3" x3" x2½"	Universal	3

Cat. No.	Plate Voltage C.T.	5 V. Fil.	2.5 V. Fil.	6.3 V. Fil.	7.5 V. Fil.	1.5 V. Fil.	Mtg. Type	Dimensions H. W. D.	Mounting Centers	Wtg. Lbs.
50	600 V.— 70 M.A.	(1) 3 A. (2) ½ A.	3.5 A., C.T.			(1) 4.2 A. (2) 1.05 A.	S T	4¼"x3¼"x3⅝" 3¼"x3¾"x3⅛"	2½"x2⅜" Universal	5 4½
54	800 V.—110 M.A.	3 A.	(1) 3.5 A. (2) 3 A., C.T.			(1) 1.05 A. (2) 5.25 A.	S. T	4¾"x4" x4" 3¾"x4½"x3¾"	3" x3" Universal	8¾ 8¼
73	900 V.—110 M.A.		10.5 A.		(1) 2.5 A. (2) 2.5 A., C.T.		S	4¾"x4" x4½"	3" x3⅜"	10½
76	700 V.—100 M.A.	3 A.	(1) 2 A., C.T. (2) 3 A., C.T.			(1) 5A. (2) 1A.	S	4" x3¼"x3½"	2½"x2 7/16"	5¼

The above are 50-60 cycle; for 25 cycle, add 60% to price, and for 220 volt, 50-60 cycle, add 10%.

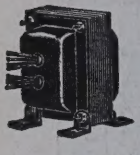
FILAMENT TRANSFORMERS

Capacity at 50-60 Cycles	Number	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.
115 V. to 2½ Volts, 12 A. C.T.	E4-1051	E4	3 5/16"	1 "x1"	2½"x4" x2¼"	2¼
115 V. to 6.3 Volts, 3 A.	B5-860	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
115 V. to 2½ Volts, 6 A. C.T.	B5-861	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
115 V. to 6.3 V., 4 A. C.T., 5 V., 3 A.	S-25	S	2½"x2⅛"	1¼"x1⅛"	4⅛"x3¼"x3⅜"	3
115 V. to 5 V., 3 A.	B5-859	B5	2⅜	¾"x ¾"	2⅜"x2⅞"x1¾"	1

DRIVER TRANSFORMERS

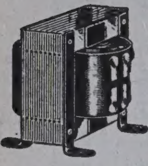
Drivers	Class	Driving	Number	Mounting	Ratio Pri. to ½ Sec.	Mounting Centers	Size H. L. W.	Wt.
6C5, 6R7 or 6F6 Triode	AB	6L6 P.P.	E-1045	E	5-1	2"x1¾"	3¼"x2⅝"x2¾"	2½
6C5, 6R7 or 6F6 Triode	AB	6L6 P.P.	B7-830	B7	5-1	2⅜"	2½"x2⅞"x1⅞"	1
6A6 or 53 Paralleled	....	6N7 P.P.	B7-831	B7	5-1	2⅜"	2½"x2⅞"x1⅞"	1
30	B	1-19 or 2-30	B4-819	B4	2.5-1	2 5/16"	2" x3⅜"x1¾"	1
89 Triode	B	1-79	B7-832	B7	2.2-1	2⅜"	2½"x2⅞"x1⅞"	1
or 46 or 59	B	2-46 or 2-59						

HALLDORSON REPLACEMENT TRANSFORMERS


L Mtg.

OUTPUT TRANSFORMERS

To Feed From	Voice Call Impedance	Number	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.
Universal	Given in Chart	D4-604	D4	2"	½"x½"	1⅜"x2⅜"x1⅜"	½
		A4-777	A4	2⅜"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
		B6-816	B6	Universal	¾"x ¾"	2" x2⅜"x1¾"	1
		B5-816	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
		B4-816	B4	2 13/16"	¾"x ¾"	2" x3⅜"x1¾"	1
P. P. 6L6—(60 Watt)	4, 8, 15, 500	S-72	S	2½"x2½"	1¼" 1¼"	4¼"x3¼"x3⅝"	5½
P. P. 6L6, 2A3, 6B5 (30 Watt)	4, 8, 15, 500	E-1042	E	2" x1¾"	1" x1"	3" x2⅝"x2⅜"	2½
P. P. 6L6, Reverse Feedback (35W.)	4, 8, 15, 500	S-81	S	2½"x2¼"	1¼"x1¼"	4" x3¼"x3⅜"	4¾
2A3, 43, 45 50, 59, 71A	4, 8, 15	B5-850	B5	2⅜"	¾"x ¼"	2⅜"x2⅞"x1¾"	1
31, 33, 42, 47, 79, 2A5		B5-851	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
6A4, 10, 38, 41, 53		B5-852	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
P. P. 2A3, 43, 45, 50, 59, 71A, 6B5		B5-853	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
P. P. 31, 33, 42, 47, 79, 2A5		B5-854	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
P. P. 6A4, 10, 38, 41, 53		B5-855	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1
P. P. 2A3, 43, 45, 50, 59, 71A, 6B5	2, 4, 8	A5-700	A5	2"	⅝"x ⅝"	2" x2½"x1½"	10 oz.
2A5, 42, 47, 79 — For Midget —	3 to 6 Ohm Voice Coil	D4-600	D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½
43 —and A.C.-D.C. Sets—		D4-601	D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½
41, 19, 38 —		D4-602	D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½
Universal Types for Midget and A.C.-D.C. Sets							
2A5, 19, 38, 41, 42, 43, 47, 79	3 to 6 Ohm Voice Coil	A4-770	A4	2 5/16"	⅝"x ⅝"	1¾"x2⅞"x1½"	10 oz.
2A5, 19, 38, 41, 42, 43, 47, 79		A5-771	A5	2"	⅝"x ⅝"	2" x2½"x1½"	10 oz.
Single and P. P. 2A5, 19, 38, 41, 42, 43, 47, 79	3 to 6 Ohm Voice Coil	A5-772	A5	2"	⅝"x ⅝"	2" x2½" x1½"	10 oz.
Single 1S4	3 to 6 Ohm Voice Coil	K4-800	K4	1¾"	⅜"x⅜"	1⅛"x2⅛"x ⅞"	6 oz.
Single 1A5G, 1E7G, 1N6G, 6V7G		A4-775	A4	2⅜"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.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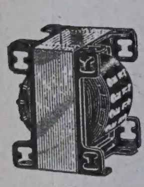
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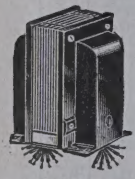
AUDIO TRANSFORMERS

Application	Number	Mounting	Over All Ratio	Mounting Centers	Core	Sizes H. L. W.	Wt.
Single Plate to Single Grid Class A From general purpose tubes such as 27, 56, etc. To 27, 45, 2A5, etc	B -805	B	2½—1	1½"x2¼"	¾"x¾"	2⅛"x2¾"x2⅜"	1½
	B4-805	B4	2½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1
	B4-807	B4	3½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1
	B4-808	B4	2½—1	2 13/16"	¾"x⅝"	2" x3⅜"x1⅝"	15 oz.
	A4-751	A4	3—1	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
	A4-752	A4	2½—1	2 5/16	⅝"x⅝"	1¾"x2⅞"x1½"	9 oz.
Single Plate to Pushpull Grids Class A From general purpose tubes such as 27, 56, etc. To 27's, 45's, 2A5's, etc., in Push Pull.	E- 1027	E	4—1	2"x2"	1"x1"	3" x2⅝"x2⅜"	2½
	E 4-1027	E4	4—1	3 9/16"	1"x1"	2½"x4" x2¼"	2¼
	B5-810	B5	4—1	2⅜"	¾"x¾"	2⅜"x2⅞"x1¾"	1
	B7-893	B7	3—1	2⅜"	¾"x¾"	2½"x2⅞"x1⅞"	1⅛
	B4-815	B4	3½—1	2 13/16"	¾"x⅝"	1¾"x2⅞"x1½"	15 oz.
	A4-761	A4	3½—1	2 5/16"	⅝"x⅝"	1¾x"2⅞"x1½"	9 oz.
	A4-760	A4	3—1	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
	B5-809	B5	4—1	2⅜"	¾"x1"	2⅜"x2⅞"x2"	1¼
Universal Pushpull Input To replace any input transformer used in Class A Circuit.	B6-818	B6	3—1	Universal	¾"x¾"		1
	B4-818	B4	3—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1
	B5-818	B5	3—1	2⅜"	¾"x¾"	2⅜"x2⅞"x1¾"	1
Two Plates to Two Grids—Class A	B -811	B	1½—1	1½"x2¼"	¾"x¾"	2⅛"x2¾"x2⅜"	1½
	B4-811	B4	1½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1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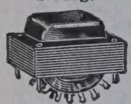
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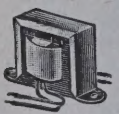
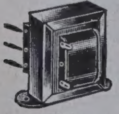
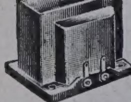

A4, B4, E4 D4 Mtg.

MICROPHONE AND LINE TRANSFORMERS

Application	Pri. Impedance	Sec. Impedance	Number	Mtg.	Mounting Centers	Size H. L. W.	Wt.
Microphone, Line or Mixer to Single Grid	*500 C.T., 250, *200 C.T., 50	Grid of Tube C.T.	E-1040	E	2"x2"	3"x2⅝"x2⅜"	2½
Line to Line or Line to Voice Coil	*500 C.T., 250, *200 C.T., 50	4, 8, 15, 500	E-1041	E	2"x2"	3"x2⅝"x2⅜"	2½
Microphone to Single Grid	200 C.T.	Grid of Tube	F-822	F	2½"	3"x2¾" diam.	1¾
Line to Multiple Speakers—60 Watt	250 or 500	Adjustable to Match 1 to 6 Speakers	P-300	Special		3"x5" x4½"	6½


B5 A5 Mtg.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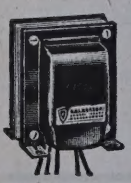
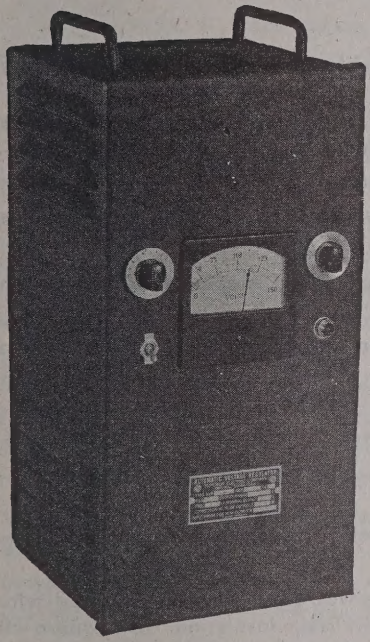
FILTER CHOKES

Number	Ohms	Henries	At M.A.	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.
E -1030	250	23	110	E	2"x2"	1"x1"	3" x2½"x2½"	2½
E4-1030	250	23	110	E4	3 9/16"	1"x1"	2⅝"x4" x3"	2¼
C4-967	350	31	80	C4	3⅛"	⅞"x⅞"	2¼"x3¾"x2¼"	1½
C4-968	1400	50	60	C4	3⅛"	⅞"x⅞"	2¼"x3¾"x2¼"	1½
B4-836	700	30	35	B4	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1
B4-837	400	15	40	B4	2 13/16"	¾"x¾"	2" x2⅜"x1¾"	1
T -1002	300	11	50	A4	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
T -1001	400	12	40	A4	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
T -391	350	14.5	35	A4	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
T -333	200	6.5	60	A4	2 5/16"	⅝"x⅝"	1¾"x2⅞"x1½"	10 oz.
T -341	400	12.5	30	D4	2"	½"x⅝"	1⅜"x2½"x1⅜	6 oz.
T -343	200	5.5	35	D4	2"	½"x⅝"	1⅜"x2½"x1⅜"	6 oz.
E -1031	2200	80	28	E	2"x1¾"	1"x1"	3¼"x2⅝"x2¾"	2½
E -1032	160	7.5	150	E	2"x2"	1"x1¼"	3¼"x2⅝"x3"	2½


E Mtg.

SUPERIOR *Electric Company*

SECO *automatic* VOLTAGE REGULATOR



The SECO automatic voltage regulator maintains a constant output voltage with variations in input voltage or output load current. This regulator consists of a special bridge and thyratron tube circuit which detects any variation in a c line voltage and authorizes a Motor-driven POWERSTAT Variable Transformer to correct for a constant output voltage.

This improved type regulator retains all the desirable characteristics inherent in the variable voltage auto-transformer.

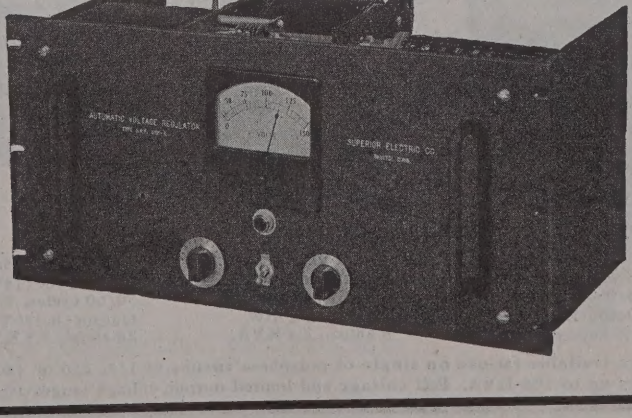
- HIGH EFFICIENCY 98% or better at full load.
- NO WAVE FORM DISTORTION.
- LOW EXCITING CURRENT.
- LOW COST PER KVA.

And the SECO regulator has additional features offered by no other automatic voltage regulating equipment.

- BUILT IN HIGH SPEED CIRCUIT BREAKER PROTECTION.
- NO INTERNAL MECHANICAL ADJUSTMENTS.
- OPERATION NOT AFFECTED BY LOAD OR POWER FACTOR.
- RAPID CORRECTION.
- OUTPUT VOLTAGE AND SENSITIVITY ADJUSTABLE OVER WIDE RANGE.

- CORRECTS A WIDE RANGE OF INPUT VOLTAGES. Standard models correct for input voltage variations of plus and minus 17.5% of the nominal output voltage.
- AVAILABLE FOR RACK MOUNTING OR IN SELF CONTAINED-CABINETS.

For all electrical and electronic applications this modern voltage control is available for single or polyphase 115, 230, or 440 volt circuits in capacities of 1 to 100 KVA.



SEND FOR
BULLETIN 164 MR

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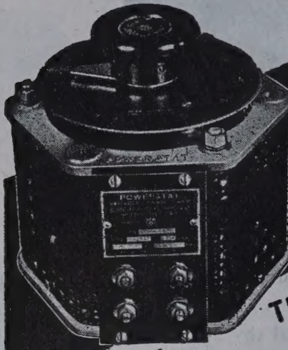
SUPERIOR *Electric Company*



POWERSTAT

VARIABLE TRANSFORMERS FOR CONTROL OF A. C. POWER

The POWERSTAT is a variable auto-transformer for obtaining continuously variable output voltage from a c power lines.

The POWERSTAT is adaptable to any application where a smooth continuously adjustable output voltage is required.

The POWERSTAT combines many desirable features of voltage control:

SMOOTH CONTROL: Output voltages can easily be adjusted to within fractions of a volt of desired value.

RUGGED MECHANICAL DESIGN: Mechanically very rugged and simple, assuring freedom from maintenance and breakdown.

EXCELLENT REGULATION: Essentially no variation in output voltage from no load to full load current.

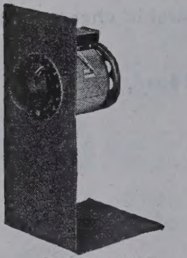
HIGH EFFICIENCY: Efficiency remains very high even at low output voltages. This means saving in power and is in contrast to the inefficient wasteful control method by rheostats.

WIDE RANGE OF OUTPUT VOLTAGE: Output voltages may be varied from zero to considerably above line voltage.

LIGHT WEIGHT: Use of highest grade silicon steel core and aluminum alloy parts results in extremely low weight.

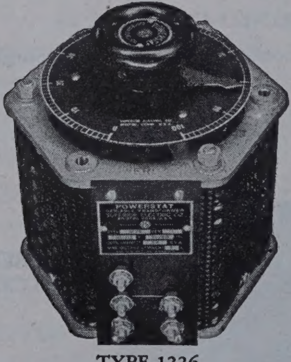
ADVANCED WINDING TECHNIQUE: Larger models are wound with glass insulated wire while smaller units use a high strength poly vinyl resin insulation. In addition all units are thoroughly impregnated and baked with a high quality baking varnish.

DESIRABLE ELECTRICAL FEATURES: Low exciting current — Low exciting power — No distortion in output wave-form.

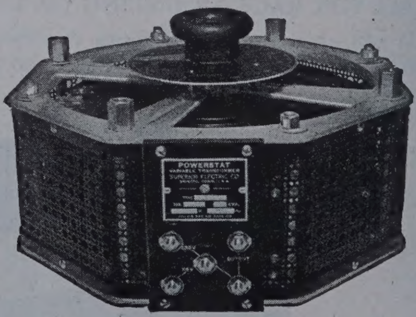


TYPE 116U

TYPE 116



TYPE 1226



TYPE 1256

RATINGS OF POWERSTATS SHOWN ABOVE

TYPE 1126	TYPE 116 & 116U	TYPE 1226	TYPE 1256
Input: 115 V, 50/60 cycles, 1 phase.	Input: 115 V, 50/60 cycles, 1 phase.	Input: 230/115V, 50/60 cycles, 1 phase.	Input: 230/115V, 50/60 cycles, 1 phase.
Output: 0-135 volts, 15 amperes, 2.0 KVA.	Output: 0-135 volts. 7.5 amperes, 1.0 KVA.	Output: 0-270V, 9 amps., 2.4 KVA.	Output: 0-270V, 28 amps., 7.5 KVA.

Standard POWERSTATS are available for use on single or polyphase circuits of 115, 230 or 440 volts for air or oil cooling in sizes up to 100 KVA. Full voltage and limited output voltage ranges available.

SE CO

SUPERIOR *Electric Company*

POWERSTAT

WITH MOTOR DRIVE

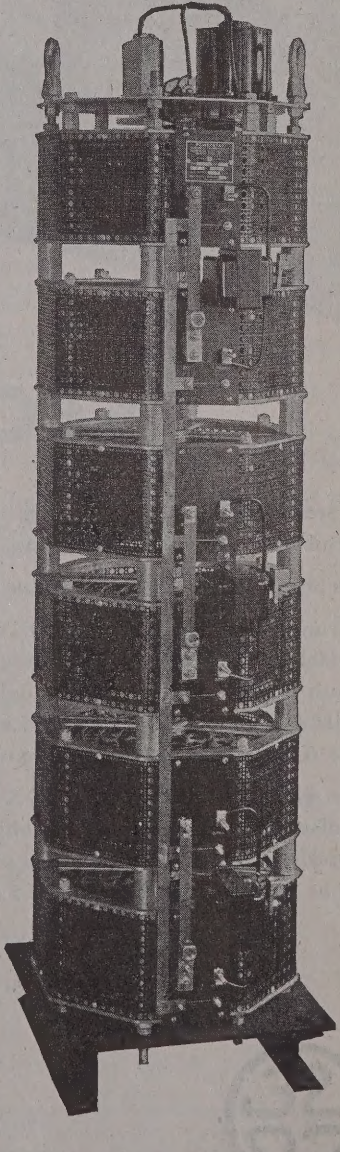
FOR PUSH BUTTON OR AUTOMATIC CONTROL

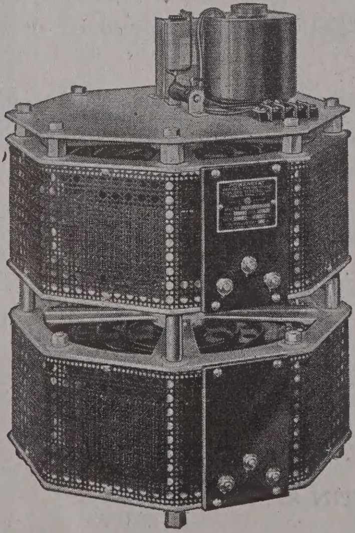
SECO'S Motor-driven POWERSTAT Variable Transformers offer a highly efficient and accurate method of controlling a c power. It is unnecessary to bring heavy cable to cumbersome tap changers on switch boards or control desks. Simple wiring from your automatic control device or push button station to the pilot terminals of a Motor-driven POWERSTAT Variable Transformer will enable the operator to control kilowatts of power safely and smoothly.

Engineered combinations of POWERSTAT VARIABLE VOLTAGE TRANSFORMERS and a HIGHLY DAMPED SYNCHRONOUS DRIVING MOTOR of low fundamental speed are the answer to efficient, quick, convenient and continuous control of power.

Where a self-contained piece of apparatus is required for rapidly controlling voltage to any desired value — investigate Motor-driven POWERSTAT Variable Transformers. This equipment is used in radio transmitters, vacuum tube manufacture, electrical testing, induction heating, electric furnace temperature control, automatic voltage regulators and other applications where an efficient high quality control is required.

Motor-driven POWERSTAT Variable Transformers are manufactured in sizes up to 100 KVA for 115, 230 or 440 volt operation on single or polyphase circuits. Various speed operators are available having travel time from one second to one minute.





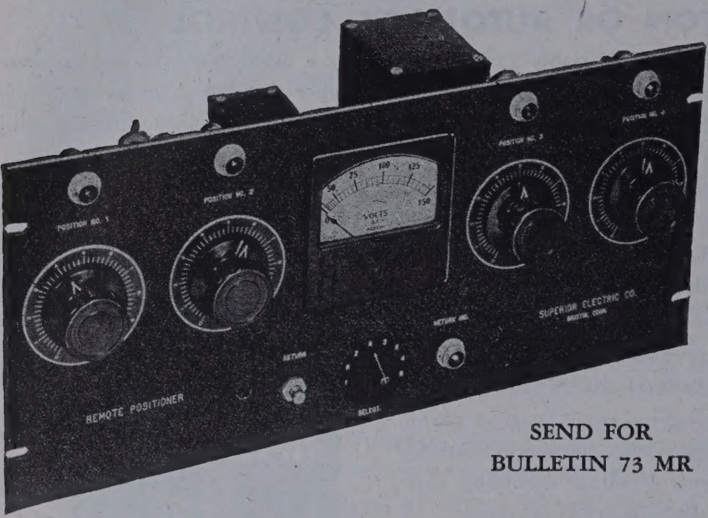
SEND FOR GENERAL BULLETIN MR

SUPERIOR *Electric Company*

SECO REMOTE POSITIONER

To remotely control a POWERSTAT Variable Transformer with a high degree of accuracy SECO has added the "POSITIONER" to its line of quality a c voltage control equipment.

SERVO operation is achieved by turning the dial of the remote controller causing the Motor-driven POWERSTAT Variable Transformer to follow in accordance with the dial position. The position of the pointer of the remote controller and the position of the POWERSTAT pointer will always be in exact relationship. Every change made in the position of the controller will be transmitted immediately to the POWERSTAT driving motor so that the POWERSTAT will be positioned exactly to a point corresponding to the location of the controller pointer. Control wires between the "POSITIONER" and the motor operated POWERSTAT serve as an "electrical flexible shaft" coupling the control dial and the POWERSTAT Variable Transformer.



SEND FOR
BULLETIN 73 MR

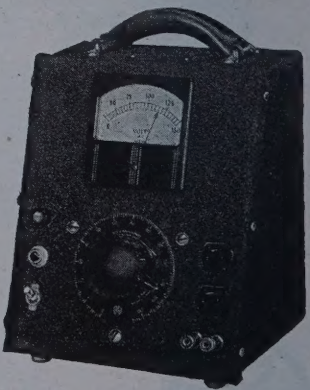
SECO VOLTBOX

In presenting this unique instrument, SECO offers a portable source of variable a c voltage for the laboratory, assembly line, or maintenance shop.

The SECO VOLT-BOX is available in unregulated and automatically regulated types.

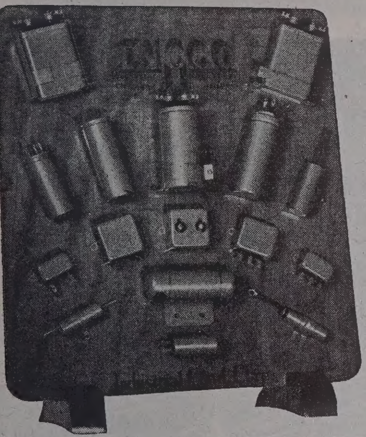
The unregulated SECO VOLT-BOX consists of a strong, light weight, compact steel enclosure with a POWERSTAT Variable Transformer to obtain the required voltage, a 1% voltmeter to accurately set the output, high speed circuit breaker protection, pilot light, output receptacle, binding posts, input cord and plug. Standard types are available for 115 volt input, 0-135 volt output at 7.5 amperes maximum or 230 volt input 0-270 volt output, 3.0 amperes maximum.

The regulated SECO VOLT-BOX has all the components of the unregulated type plus a voltage stabilizer. With this instrument an automatically regulated output voltage of any value between 0 and 135 volts can be maintained at a current of 5 amperes maximum.



SEND FOR BULLETIN 88 MR

INDUSTRIAL INCCO CONDENSER

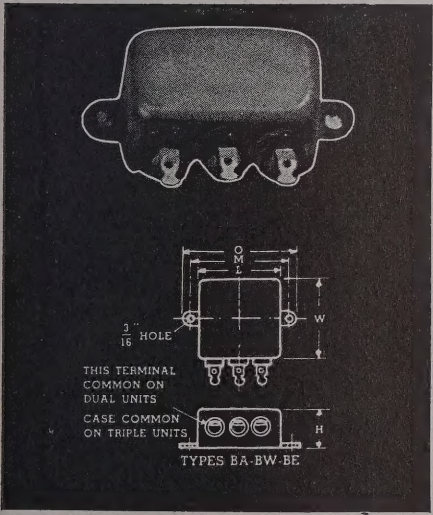


THE INDUSTRIAL CONDENSER CORP. was formed in 1940 in order to answer a definite need for a midwestern manufacturer of oil, wax, electrolytic and motor starting capacitors. During this time INDUSTRIAL has grown to a leading place in the industry.

In addition to the standard types of paper and electrolytic capacitors covered in these pages (see Bulletin 1031A for complete line) and carried in distributors' stocks throughout the country, a wide variety of other types are available on special order.

The display shown at the left is on the counter of every INDUSTRIAL distributor. Reference to this will be of assistance in selecting the proper unit for each application.

Built to U. S. Signal Corps and Navy Specifications


O
M
L
W
3/16" HOLE
THIS TERMINAL COMMON ON DUAL UNITS
CASE COMMON ON TRIPLE UNITS
H
TYPES BA-BW-BE

DRY ELECTROLYTICS

Type "BE" electrolytic capacitor is the first commercially available unit of this type with the reliability of the total submersion type, oil filled capacitors.

Wound with the highest purity aluminum foil and cellulose separators available; impregnated in electrolyte having excellent temperature characteristics, these units will outlive their associated equipment.

Cat. No.	Cap. in Mfds.	Volts	Dimen. in In. L	W	H	M	List Price
25BE10	10	25	1 13/16	1	13/16	2⅛	$1.75
25BE25	25	25	1 13/16	1	13/16	2⅛	1.90
50BE10	10	50	1 13/16	1	13/16	2⅛	1.80
50BE25	25	50	1 13/16	1	13/16	2⅛	1.95

TYPE "BA" OIL FILLED

1. INCCO OIL "A" permits efficient operation of these compact units over the widest range of temperature.
2. The use of the HIGHEST GRADE CONDENSER TISSUE insures greater safety factor and longer life.
3. Specially PROCESSED RIVETED TERMINALS are designed to withstand total submersion in salt water and changes in temperature from 50° below zero Centigrade to 90° above zero Centigrade without loosening or losing their integrity.
4. CONDENSER MOUNTINGS form an integral part of these drawn shell containers insuring permanent and rigid fastenings.
5. All units are NON-INDUCTIVELY WOUND providing efficient operation over the widest range of frequencies.
6. HERMETICALLY SEALED, they are unaffected by time, temperature or humidity.
7. CONSERVATIVELY RATED for safe and continuous uninterrupted operation at 10% above rated voltage for the lifetime of associated equipment.
8. Tested at twice the rated voltage between terminals and twice the rated voltage plus 1000 from each terminal to case.

Cat. No.	Cap. in MFDS.	Dimensions in Inches L	W	H	M	O	List Price
		600 V. D. C. WORKING					
6BA05	.05	1 13/16	1	13/16	2⅛	2½	$1.70
6BA10	.1	1 13/16	1	13/16	2⅛	2½	1.75
6BA25	.25	1 13/16	1	13/16	2⅛	2½	1.80
6BA50	.5	1 13/16	1	⅞	2⅛	2½	1.95
6BA100	1.0	2	1¾	⅞	2⅜	2¾	2.25
6BA0505	.05-.05	1 13/16	1	13/16	2⅛	2½	2.15
6BA11	.1-.1	1 13/16	1	13/16	2⅛	2½	2.20
6BA22	.25-.25	2	1¾	⅞	2⅜	2¾	2.25
6BA55	.5-.5	2	1¾	⅞	2⅜	2¾	2.55
6BA111	.1-.1-.1	1 13/16	1	13/16	2⅛	2½	2.50
6BA222	.25-.25-.25	2	1¾	⅞	2⅜	2¾	2.80
6BA200	2	2	2	1⅛	2⅜	2 13/16	3.00
		1000 V. D. C. WORKING					
10BA05	.05	1 13/16	1	13/16	2⅛	2½	1.75
10BA10	.1	1 13/16	1	13/16	2⅛	2½	1.85
10BA25	.25	1 13/16	1	13/16	2⅛	2½	1.90
10BA50	.5	2	1¾	⅞	2⅜	2¾	2.05
10BA100	1.0	2	2	1⅛	2⅜	2 13/16	2.75
10BA0505	.05-.05	1 13/16	1	13/16	2⅛	2½	2.15
10BA11	.1-.1	1 13/16	1	13/16	2⅛	2½	2.30
10BA22	.25-.25	2	1¾	⅞	2⅜	2¾	2.50

Above units also available in 200 V. D. C., 400 V. D. C. and 1500 V. D. C. on request.

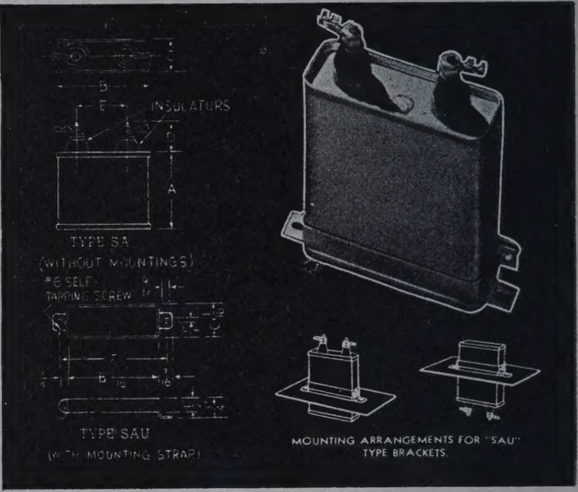
NOTICE—Most units are available with TERMINALS ON TOP, BOTTOM OR ENDS. When ordering, add "T" for top terminals, "B" for terminals on bottom or "E" for end terminals, i.e., 6BAT100 for terminals on top. Type "B" also available in WAX FILLED. When ordering, change catalog number A to W, i.e., 6BW100. STANDARD CAPACITY tolerance of plus 20 per cent minus 10 per cent furnished on oil filled and wax filled units unless otherwise specified when ordering. Can be furnished in plus or minus 1 per cent capacity tolerance on special request.

INDUSTRIAL INCCO CONDENSER

INDUSTRIAL CONDENSER CORP.

TYPE "SA" OIL FILLED

1. INCCO OIL "A" IMPREGNATED AND FILLED—permitting efficient operation over widest range of temperature.
2. HERMETICALLY SEALED CASE—is unaffected by time, humidity, or operating temperatures.
3. Use of HIGHEST GRADE CONDENSER TISSUES insures a long uninterrupted life.
4. HIGH-GLAZE PORCELAIN INSULATORS—insure low moisture absorption and high terminal to case flash over.
5. CONSERVATIVELY RATED—SAFE FOR CONTINUOUS OPERATION AT 10 PER CENT OVERLOAD.
6. Use of "SPACE SAVER" UNIVERSAL MOUNTING BRACKETS provides adjustable capacitor heights.
7. LEAD COATED STEEL CASE—IS NON-CORROSIVE and lacquer finished.
8. TESTED FOUR TIMES BEFORE SHIPMENT—guarantees a 100 per cent perfect product electrically and mechanically.



If riveted terminal construction is wanted in place of porcelain stand-off insulators add "R" to catalog number. For example, 6SA50 changes to 6SAR50. Submersion proof terminal construction to meet Army and Navy specifications is optional; specify on order. Standard capacity tolerance plus or minus 10 per cent. Mounting brackets supplied in accordance with following catalog designations: **TYPE SA**—No mounting brackets. **TYPE SAU**—"Space Saver" universal bracket. **TYPE SAJ**—Soldered vertical mounting bracket. **Type SAL**—Reversable mounting foot bracket. **TYPE SAH**—Reversable spade bolt bracket.

For example: The 8mfd. 600V. type with "Space Saver" bracket has catalog number 6SAU800.

NOTE: Due to national emergency and to facilitate delivery we have standardized on container heights. In many cases units can be supplied in shorter containers if required.

Cat. No.	Cap. Mfd.	A	B	C	D	E	F	*G	H	List Price
600 V.D.C. WORKING										
6SA50	.5	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	$2.75
6SA100	1.0	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	3.50
6SA200	2.0	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	4.25
6SA400	4.0	4⅛	2½	1 3/16	⅞	1⅛	3		3	5.50
6SA600	6.0	4¾	2½	1 3/16	⅞	1⅛	3		3	6.75
6SA800	8.0	4	3¾	1¼	⅞	2	4⅜		4⅜	8.00
6SA1000	10.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	9.00
1000 V.D.C. WORKING										
10SA10	.1	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	2.50
10SA25	.25	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	2.75
10SA50	.5	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	3.00
10SA100	1.0	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	3.75
10SA200	2.0	4	1 13/16	1 1/16	⅞	13/16	2¼		2¼	5.00
10SA400	4.0	4¾	2½	1 3/16	⅞	1⅛	3		3	6.25
10SA600	6.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	8.25
10SA800	8.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	9.00
10SA1000	10.0	4¾	3¾	1¾	⅞	2	4⅜		4⅜	10.00
1500 V.D.C. WORKING										
15SA50	.5	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	4.00
15SA100	1.0	4	1 13/16	1 1/16	⅞	13/16	2¼		2¼	4.50
15SA200	2.0	4⅛	2½	1 3/16	⅞	1⅛	3		3	6.25
15SA400	4.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	8.50
15SA600	6.0	4¾	3¾	1¾	⅞	2	4⅜		4⅜	10.25
2000 V.D.C. WORKING										
20SA10	.1	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	4.00
20SA25	.25	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	4.25
20SA50	.5	2⅞	1 13/16	1 1/16	⅞	13/16	2¼		2¼	$4.50
20SA100	1.0	4⅛	2½	1 3/16	1¼	1⅛	3		3	5.50
20SA200	2.0	4	3¾	1¼	1¼	2	4⅜		4⅜	6.50
20SA400	4.0	4¼	3¾	2¼	1¼	2	4⅜		4⅜	9.00
20SA600	6.0	4¾	3¾	3 3/16	1¼	2	4⅜	2	4⅜	11.75
2500 V.D.C. WORKING										
25SA50	.5	4	3¾	1¼	1¼	2	4⅜		4⅜	7.00
25SA100	1.0	3¼	3¾	1¾	1¼	2	4⅜		4⅜	8.00
25SA200	2.0	4¾	3¾	1¾	1¼	2	4⅜		4⅜	13.00
25SA400	4.0	4¼	3¾	4 9/16	1¼	2	4⅜	3⅜	4⅜	18.00
3000 V.D.C. WORKING										
30SA10	.1	2⅝	2½	1 3/16	1¼	1⅛	3		3	8.50
30SA25	.25	3⅜	2½	1 3/16	1¼	1⅛	3		3	9.00
30SA50	.5	4⅛	2½	1 3/16	1¼	1⅛	3		3	10.00
30SA100	1.0	4¼	3¾	2¼	1¼	2	4⅜		4⅜	12.00
30SA200	2.0	4¾	3¾	3 3/16	1¼	2	4⅜	2	4⅜	15.00
4000 V.D.C. WORKING										
40SA10	.1	2¾	3¾	2¼	2	2	4⅜		4⅜	15.00
40SA25	.25	2¾	3¾	2¼	2	2	4⅜		4⅜	16.00
40SA50	.5	4¼	3¾	2¼	2	2	4⅜		4⅜	18.00
40SA100	1.0	5	3¾	2¼	2	2	4⅜		4⅜	22.00
5000 V.D.C. WORKING										
50SA50	.5	4¼	3¾	2¼	2	2	4⅜		4⅜	20.00
50SA100	1.0	4¼	3¾	4 9/16	2	2	4⅜	3⅜	4⅜	25.00
6000 V.D.C. WORKING										
60SA50	.5	7	3¾	3 3/16	1¼	2	4⅜	2	4⅜	45.00
60SA100	1.0	8	3¾	4 9/16	2	2	4⅜	3⅜	4⅜	50.00

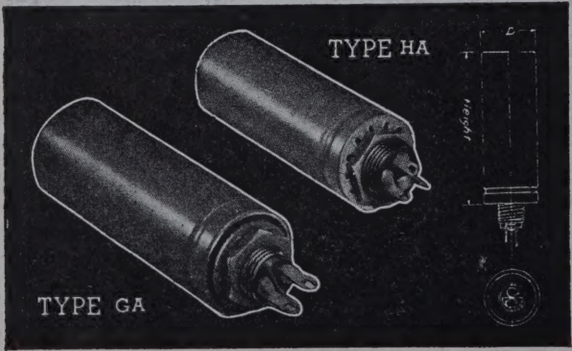
Dimensions in Inches

* Where G dimension is given, two spade lugs or mountings holes are supplied on each bracket.

TYPES "GA" and "HA" OIL FILLED

These inverted mounting capacitors fill a definite need where chassis space is the prime factor.

Types "GA" and "HA" are INCCO Oil "A" impregnated and filled.



The case is a one-piece metal extrusion with a "locked-in" molded neck. This construction meets and surpasses the Army and Navy requirements for a submersion-proof capacitor.

Type "GA" is available in the seven standard rating listed below, but can also be supplied in other capacities and/or voltages to manufacturers' specifications.

In the standard "GA" and "HA" types the container is insulated. A grounding lug can be supplied for connecting one terminal to the case. Fiber washers for insulating container from chassis, when case is grounded, and insulating cover for insulating the container from adjacent equipment, can also be supplied on special order.

Type "HA" differs from "GA" in container and mounting neck size, and also in the fact that it has three insulated terminals. Primarily, type "HA" is supplied to manufacturers specifications, to meet special requirements of multiple-section and multiple-terminal capacitors, with either insulated or grounded container.

Type	Case Diameter	Size of Mounting Neck
GA — GE — GW	1½"	¾" x 16 thread
HA — HE — HW	1⅜"	⅞" x 16 thread

Cat. No.	Cap. Mfds.	Working Voltage D.C.	Height	List Price
6GA200	2	600	3"	$3.30
6GA300	3	600	4½"	4.00
6GA400	4	600	4½"	4.50
10GA100	1	1000	3"	3.00
10GA200	2	1000	4½"	4.00
15GA50	.5	1500	3"	3.60
15GA100	1	1500	4½"	4.00

INDUSTRIAL CONDENSER

CAPACITORS TO 100,000 V.D.C.W.

INCCO OIL "A" IMPREGNATED AND FILLED assures smaller size, low power factor, and widest range of operating temperatures.

ELECTRIC ARC WELDED HEAVY GAUGE HOT TINNED STEEL CASES are non-corrosive—finished in durable lacquer.

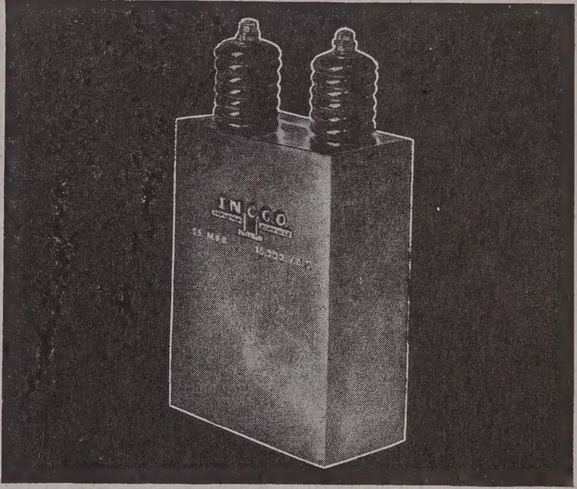
GLAZED WET-PROCESS PORCELAIN INSULATORS—low moisture absorption and high terminal to case flash over.

WOUND WITH HIGHEST GRADE CONDENSER TISSUES—insures a long, uninterrupted life.

CONSERVATIVELY RATED—Safe for continuous operation at 10 per cent overload.

HERMETICALLY SEALED STEEL CASE — unaffected by time, humidity or operating temperatures.

AVAILABLE TO MEET U. S. SIGNAL CORPS AND NAVY SALT WATER SUBMERSION REQUIREMENTS.



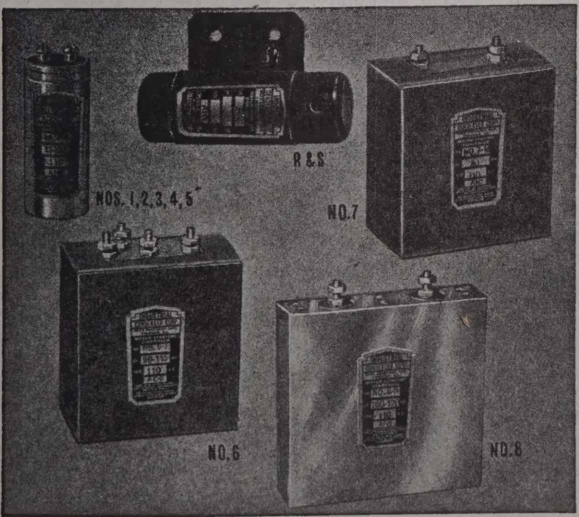
TYPE "WA" — HIGH VOLTAGE OIL FILLED CAPACITORS

Cat. No.	Cap. Mfd.	Case Dimensions in Inches Width	Length	Height	List Price
		6,000 V. D. C. WORKING			
60WA200	2.	4	8	11	$108.00
60WA400	4.	4	12	11	132.00
60WA500	5.	4	12	11	150.00
60WA600	6.	4	12	13	168.00
60WA1000	10.	6	12	13	210.00
		7,500 V. D. C. WORKING			
75WA50	.5	4	8	11	60.00
75WA100	1.	4	8	11	78.00
75WA200	2.	4	8	11	120.00
75WA400	4.	4	12	13	180.00
75WA600	6.	6	12	13	216.00
		10,000 V. D. C. WORKING			
100WA100	1.	4	8	11	156.00
100WA200	2.	4	8	13	198.00
100WA400	4.	6	12	13	240.00
100WA500	5.	6	12	13	264.00
		12,500 W. D. C. WORKING			
125WA50	.5	4	8	11	132.00
125WA100	1.	4	12	11	168.00
125WA200	2.	6	12	13	210.00
125WA500	5.	9½	12	15	396.00

Cat. No.	Cap. Mfd.	Case Dimensions in Inches Width	Length	Height	List Price
		15,000 V. D. C. WORKING			
150WA25	.25	4	8	11	126.00
150WA50	.5	4	12	11	150.00
150WA100	1.	4	12	13	210.00
150WA200	2.	9½	12	15	276.00
150WA300	3.	9½	12	15	378.00
		20,000 V. D. C. WORKING			
200WA25	.25	4	8	11	150.00
200WA50	.5	4	12	11	192.00
200WA100	1.	6	12	13	258.00
200WA150	1.5	9½	12	15	348.00
200WA200	2.0	9½	12	15	414.00
		25,000 V. D. C. WORKING			
250WA20	.2	4	12	11	156.00
250WA25	.25	4	12	11	210.00
250WA50	.5	6	12	13	228.00
250WA100	1.	9½	12	15	342.00
		50,000 V. D. C. WORKING			
500WA25	.25	6	13½	16¾	*
500WA50	.5	7¼	18	20	*
		80,000 V. D. C. WORKING			
800WA25	.25	7¼	18	20	*
		100,000 V. D. C. WORKING			
1000WA20	.2	7¼	18	20	*

* Prices on application.

For the duration of the war it is necessary that we reserve the right to make slight changes in case dimensions, in order to fabricate with available material. We will, however, notify you of any changes before entering your order.



MOTOR STARTING CONDENSERS

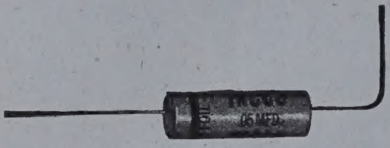
These motor starting condensers are all heavy duty three second start. Built of the finest materials obtainable, these capacitors are engineered to the Nth degree of perfection. They are used by all the leading manufacturers of high quality motors.

The listings shown will take care of 90% of all your replacement requirements.

Number	Size, Inches	Capacity	List Price
1-A	1⅜ Dia. x 3¼	45 - 70	$1.40
1-B	1⅜ Dia. x 3¼	85 - 115	1.55
1-C	1⅜ Dia. x 3¼	120 - 150	1.65
1-T	1⅜ Dia. x 3¼	145 - 162	2.00
2-D	1½ Dia. x 3¾	85 - 115	1.60
2-E	1½ Dia. x 3¾	120 - 150	1.70
3-F	2 Dia. x 4⅛	90 - 115	2.60
3-P	2 Dia. x 4⅛	120 - 150	2.75
3-U	2 Dia. x 4⅛	245 - 300	3.60
3-W	2 Dia. x 4⅛	161 - 190	3.00
4-G	2½ Dia. x 4⅛	85 - 115	2.60
4-H	2½ Dia. x 4⅛	120 - 150	2.75
5-I	3 Dia. x 4⅛	100 - 115	2.65
6-J	3½ x 4 x 2	90 - 115	2.60
6-K	3½ x 4 x 2	124 - 138	2.75
6-L	3½ x 4 x 2	145 - 162	2.90
7-M	3½ x 4 x 2	80	2.30
7-Q	3½ x 4 x 2	50 - 65	2.00
8-N	4½ x 4½ x 1¼	100 - 120	2.75
8-O	4½ x 4½ x 1¼	70 - 90	2.60
R	Mounting Bracket	for No. 1	.65
S	Mounting Bracket	for No. 3	.80

INDUSTRIAL INCCO CONDENSER

TUBULAR PAPER CONDENSERS



TYPE PT

Incco By-Pass Condensers are non-inductively wound and designed for maximum efficiency up to the highest radio frequencies. The units themselves are completely impregnated and sealed with a special non-hydroscopic sealing compound, thus preventing moisture penetration under the most humid conditions. The lead connected to the outside foil of the condenser is indicated by a black stripe around the end of the tube.

TESTED AT 3 TIMES RATED VOLTAGE

Catalog Number	Capacity Mfd.	Working Voltage	List Price
PT100	.0001	1000	$0.20
PT101	.00025	1000	.20
PT102	.0005	1000	.20
PT103	.001	1000	.25
PT104	.002	1000	.25
PT105	.005	1000	.25
PT106	.006	1000	.25
PT107	.01	1000	.35
PT135	.01	600	.20
PT136	.02	600	.20
PT137	.03	600	.25
PT138	.05	600	.25
PT139	.1	600	.30
PT140	.25	600	.40
PT141	.5	600	.60
PT142	1.0	600	.95
PT170	.01	400	.20
PT171	.02	400	.20
PT172	.05	400	.20
PT173	.1	400	.25
PT174	.25	400	.30
PT175	.5	400	.40
PT176	1.0	400	.60
PT200	.02	200	.20
PT201	.05	200	.20
PT202	.1	200	.25
PT203	.25	200	.30
PT204	.5	200	.40
PT205	1.0	200	.60

VIBRATOR REPLACEMENTS

PT260	.005	2000	.40
PT261	.0075	2000	.40
PT262	.01	2000	.40
PT263	.02	2000	.40

INTERFERENCE ELIMINATOR

No. 7249

Designed for eliminating radio interference caused by fluorescent lights. By installing this unit directly in the fluorescent fixture, it eliminates all interference from the fixture. It is small enough to fit in any corner and is light enough so as not to require any special mounting. **List Price**..**$1.00 each**

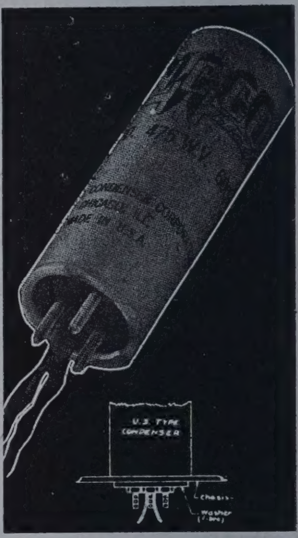
DIRECT REPLACEMENT

For Aluminum Can Electrolytics—Wet and Dry Types

No Drilling — No Changes

Literally thousands have asked for a condenser which would directly replace the now almost extinct aluminum can screw neck type.

INDUSTRIAL now has the right answer—No fuss or worry as to whether or not it will fit. This new unit has the same mounting dimensions as the old condenser. It will slip into the same chassis hole without any drilling or enlarging. A heavy fibre washer and three nuts are the only mounting hardware—it's just as easy as the sketch shows.



Electrically and mechanically this condenser is designed for heavy duty service. It incorporates the exclusive INCCO etched foil process of construction. Each unit is first embedded in a high grade wax and then sealed in its inner case of heavy impregnated tubing. This entire condenser is then mounted in a heavy kraft tube thus relieving the condenser itself from any mechanical strain. Likewise, this construction provides an excellent seal against changes in characteristics and prevents moisture absorption. Whether it's a wet or a dry this new type "US" is the right condenser for replacement use. Supplied with Underwriters Approved rubber covered leads. Mounting washer and locking nuts included with each condenser. Individually boxed in attractive carton with instructions.

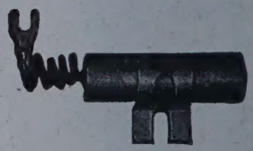
To replace 1⅜" diameter screw neck type

Cat. No.	Cap. Mfd.	Work Volt	Peak Volt	Dimensions	Mtg. Neck	List Price
US649	8	600	725	1⅜" x 4"	¾"	$3.10
US650	8	475	600	1⅜" x 4"	¾"	1.20
US651	12	475	600	1⅜" x 4"	¾"	1.65
US652	16	475	600	1⅜" x 4"	¾"	1.85
US653						
4 leads	8-8	475	600	1⅜" x 4"	¾"	1.90
US646	20	475	600	1⅜" x 4"	¾"	2.00
US647	30	475	600	1⅜" x 4"	¾"	2.20
US648	40	475	600	1⅜" x 4"	¾"	2.80

AUTO GENERATOR CONDENSER

ALSO AVAILABLE IN HERMETICALLY SEALED SUBMERSION-PROOF CONSTRUCTION

TYPE F



TYPE G

Completely enclosed in a metal container to overcome severe operating conditions of temperature and humidity. Sturdily built to withstand constant vibration.

Cat. No.	Cap. Mfd.	List Price	Cat. No.	Cap. Mfd.	List Price
G325	.25	$0.45	G328	1.0	$0.90
G326	.5	.60	F330	.5	.60

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INDUSTRIAL INCCO CONDENSER

INDUSTRIAL CONDENSER CORP.

DRY ELECTROLYTIC CONDENSERS

MIGHTY MIDGET METAL TUBULAR TYPE "MM"

Cat. No	Cap. Mfd.	W.V.	Peak Volts	Dimen. Dia. L.	List Price
MM406	100	10	25	$\frac{11}{16}$ x $1\frac{11}{16}$	$1.20
MM400	5	25	35	$\frac{11}{16}$ x $1\frac{11}{16}$	.40
MM401	10	25	35	$\frac{11}{16}$ x $1\frac{11}{16}$	.45
MM402	25	25	35	$\frac{11}{16}$ x $1\frac{11}{16}$	.60
MT403*†	10-10	25	35	$\frac{11}{16}$ x 2⅜	.70
MM404	10	50	75	$\frac{11}{16}$ x $1\frac{11}{16}$	.50
MM405	25	50	75	$\frac{11}{16}$ x $1\frac{11}{16}$	.65
MM360	8	150	200	$\frac{11}{16}$ x $1\frac{11}{16}$	.50
MM368	12	150	200	$\frac{11}{16}$ x $1\frac{11}{16}$	.60
MM361	16	150	200	$\frac{11}{16}$ x $1\frac{11}{16}$	.65
MM362	20	150	200	$\frac{11}{16}$ x $2\frac{3}{16}$	.70
MM369	30	150	200	$\frac{13}{16}$ x $2\frac{3}{16}$	.75
MM363	40	150	200	$\frac{13}{16}$ x $2\frac{3}{16}$	.80
MM370†	20-20	150	200	$\frac{15}{16}$ x $2\frac{3}{16}$	1.25
MM364	4	475	600	$\frac{11}{16}$ x $1\frac{11}{16}$	.65
MM365	8	475	600	$\frac{13}{16}$ x $2\frac{3}{16}$	.70
MM366	16	475	600	$\frac{15}{16}$ x $2\frac{3}{16}$	1.05
MM367†	8-8	475	600	$\frac{15}{16}$ x $2\frac{3}{16}$	1.25

* In cardboard tube with wax filled ends. † 3 leads.

MIGHTY MIDGET CARTON TYPE "MC"

Cat. No.	Cap. Mfd.	W.V.	Peak Volts	Dimensions W. T. L.	List Price
MC450†	16-16	150	200	$\frac{13}{16}$x1¼x2½	$1.60
MC451†	20-20	150	200	$\frac{13}{16}$x1¼x2½	1.70
MC452	8	475	600	¾x$1\frac{1}{16}$x2½	1.10
MC453†	4-4	475	600	$\frac{13}{16}$x1¼x2½	1.40
MC454†	8-8	475	600	1 x1¼x3	1.80

† 4 leads.

LARGE CARTON TYPE "C"

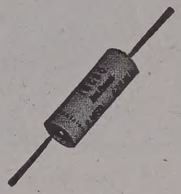
C500	8	150	200	$\frac{13}{16}$x1¼x2½	.95
C501†	16-16	150	200	1 x1¼x3	1.95
C502*	16-12	150	200	1 x1¼x3½	2.55
	10-10	25	35		
C503‡	16-16-8	150	200	1½x1⅛x3½	2.90
	10-10	25	35		
C504	4	475	600	$\frac{13}{16}$x1¼x2½	.90
C505	8	475	600	1 x1¼x3	1.10
C506†	4-4	475	600	1 x1¼x3½	1.40
C507†	8-8	475	600	1½x1⅛x3½	1.80

†C501, C506, C507—4 leads.
*C502—6 leads. ‡C503—7 leads.

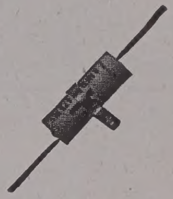
Cat. No	Cap. Mfd.	W.V.	Peak Volts	Dimen. Dia. L.	List Price
SB550†	16-12	150	200	1⅜ x 3¾	$1.80
SB551‡	16-12	150	200	1⅜ x 3¾	2.40
	10-10	25	35		
SB552†	8-8	475	600	1⅜ x 3¾	1.80
SM660*	30-10	150	200	$\frac{13}{16}$ x 3	2.20
SM601*	30-30	150	200	$\frac{15}{16}$ x 3	2.20
SM607*	50-30	150	200	1 x 3	2.40
SM601‡	16-12	150	200	1¼ x 3	2.40
	10-10	25	35		
SM605*	20-20	150	200	$\frac{15}{16}$ x 2½	2.20
SM606†	20-20	150	200	1 x 2½	2.30
SM603	8	475	600	$\frac{13}{16}$ x 3	1.10
SM604*	8-8	475	600	1 x 3	1.80

* SM600, SM601, SM607, SM605. SM604—3 leads.
† SB550, SB552, SB606—4 leads.
‡ SB551, SM602—6 leads.

An extremely popular type of condenser due to its exceptional high quality and midget size. Hermetically sealed in a small metal case and scientifically vented, to protect against adverse operating conditions of voltage, temperature and humidity. Container is insulated by a high grade tube which is spun over the ends of the can to eliminate shorts when wires are bent close to container. Easily mounted by their rigid wire leads.


Type MM

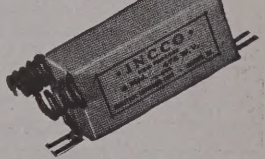
All Type "MM" units are available with mounting strap. Recommended in cases of extreme vibration or when advisable to have unit solidly anchored. When ordering add the letter S before the catalog number.


Type MMS

Each unit is completely embedded in a high grade wax and then sealed in an impregnated carton to insure efficient operation under the most adverse conditions. New, high voltage formation, gives complete protection against surges and high peak voltages. Supplied with color coded, Underwriters' Approved, rubber covered leads. Universal lugs permit easy mounting in any position.

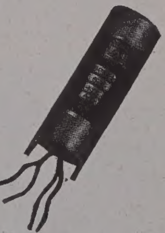
Type MC

Type "C" is similar to type "MC" above. It is designated, however, for older type sets where space is not limited.



Type C

Spade bolt type "SB" of mounting has been very popular due to its wide use in many radio sets. Each unit is embedded in a high temperature wax and then sealed in a thoroughly impregnated cardboard tube, affording complete immunity to moisture penetration. New high voltage formation gives complete protection against surges and high peak voltages.


Type SB

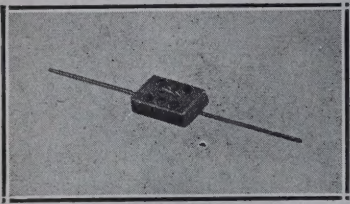
Type "SM" has identical characteristics as "SB". The addition of the strap mounting bracket has proved favorable in its use due to its wide application in AC-DC and portable sets in the replacement field. The strap can be moved to the best mounting position and then bolted or soldered.

Type SM

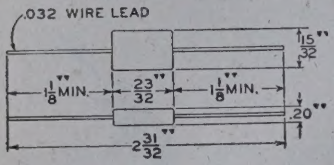
Supplied with color-coded, Underwriters' Approved, rubber covered leads.

SANGAMO CAPACITORS

TYPE K MICA CAPACITOR



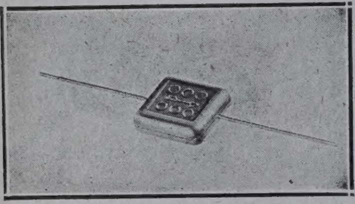
Type K: CM-20



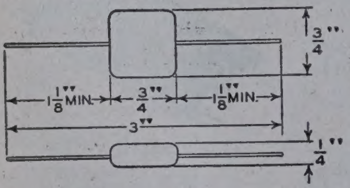
				COLOR CODE				
Cat. No.	A.S.A. Type Designation	Cap. mmf.	DC Wkg. Voltage	Upper Left Dot	Upper Center Dot	Upper Right Dot	Lower Right Dot	List Price
K-1550	CM20-050-	5	500	black	green	black	gold	.30
K-1410	CM20-100-	10	500	black	brown	black	black	.30
K-1412	CM20-120-	12	500	black	brown	red	black	.30
K-1415	CM20-150-	15	500	black	brown	green	black	.30
K-1418	CM20-180-	18	500	black	brown	gray	black	.30
K-1420	CM20-200-	20	500	black	red	black	black	.30
K-1422	CM20-220-	22	500	black	red	red	black	.30
K-1424	CM20-240-	24	500	black	red	yellow	black	.30
K-1427	CM20-270-	27	500	black	red	violet	black	.30
K-1430	CM20-300-	30	500	black	orange	black	black	.30
K-1433	CM20-330-	33	500	black	orange	orange	black	.30
K-1436	CM20-360-	36	500	black	orange	blue	black	.30
K-1439	CM20-390-	39	500	black	orange	white	black	.30
K-1443	CM20-430-	43	500	black	yellow	orange	black	.25
K-1447	CM20-470-	47	500	black	yellow	violet	black	.25
K-1451	CM20-510-	51	500	black	green	brown	black	.25
K-1456	CM20-560-	56	500	black	green	blue	black	.25
K-1462	CM20-620-	62	500	black	blue	red	black	.25
K-1468	CM20-680-	68	500	black	blue	gray	black	.25
K-1475	CM20-750-	75	500	black	violet	green	black	.25
K-1482	CM20-820-	82	500	black	gray	red	black	.25
K-1491	CM20-910-	91	500	black	white	brown	black	.25
K-1310	CM20-101-	100	500	black	brown	black	brown	.25
K-1311	CM20-111-	110	500	black	brown	brown	brown	.30
K-1312	CM20-121-	120	500	black	brown	red	brown	.30
K-1313	CM20-131-	130	500	black	brown	orange	brown	.30
K-1315	CM20-151-	150	500	black	brown	green	brown	.30
K-1316	CM20-161-	160	500	black	brown	blue	brown	.30
K-1318	CM20-181-	180	500	black	brown	gray	brown	.30
K-1320	CM20-201-	200	500	black	red	black	brown	.30
K-1322	CM20-221-	220	500	black	red	red	brown	.30
K-1324	CM20-241-	240	500	black	red	yellow	brown	.30
K-1327	CM20-271-	270	500	black	red	violet	brown	.30
K-1330	CM20-301-	300	500	black	orange	black	brown	.30
K-1333	CM20-331-	330	500	black	orange	orange	brown	.30
K-1336	CM20-361-	360	500	black	orange	blue	brown	.30
K-1339	CM20-391-	390	500	black	orange	white	brown	.30
K-1343	CM20-431-	430	500	black	yellow	orange	brown	.30
K-1347	CM20-471-	470	500	black	yellow	violet	brown	.30
K-1351	CM20-511-	510	500	black	green	brown	brown	.30
K-1210	CM20-102-	1000	500	black	brown	black	red	.35

For A characteristic use list price. For B characteristic use list price. For C characteristic (silvered mica) add 75% to list price. For D characteristic (silvered mica cycled) add 100% to list price. For ± 20% use list price. For ± 10% add 10% to the list price. For ± 5% add 20% to the list price. For ± 2% add 75% to the list price.

TYPE C MICA CAPACITOR

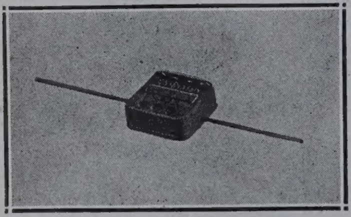


Type C: CM-30

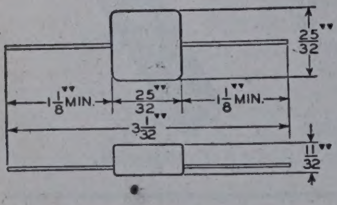


C-1347	CM30-471-	470	500	black	yellow	violet	brown	.25
C-1351	CM30-511-	510	500	black	green	brown	brown	.25
C-1356	CM30-561-	560	500	black	green	blue	brown	.25
C-1362	CM30-621-	620	500	black	blue	red	brown	.25
C-1368	CM30-681-	680	500	black	blue	gray	brown	.25
C-1375	CM30-751-	750	500	black	violet	green	brown	.25
C-1382	CM30-821-	820	500	black	gray	red	brown	.25
C-1391	CM30-911-	910	500	black	white	brown	brown	.25
C-1210	CM30-102-	1000	500	black	brown	black	red	.30
C-1211	CM30-112-	1100	500	black	brown	brown	red	.35
C-1212	CM30-122-	1200	500	black	brown	red	red	.35
C-1213	CM30-132-	1300	500	black	brown	orange	red	.35
C-1215	CM30-152-	1500	500	black	brown	green	red	.35
C-1216	CM30-162-	1600	500	black	brown	blue	red	.35
C-1218	CM30-182-	1800	500	black	brown	gray	red	.40
C-1220	CM30-202-	2000	500	black	red	black	red	.40
C-1222	CM30-222-	2200	500	black	red	red	red	.40
C-1224	CM30-242-	2400	500	black	red	yellow	red	.45
C-1227	CM30-272-	2700	500	black	red	violet	red	.45
C-1230	CM30-302-	3000	500	black	orange	black	red	.45
C-1233	CM30-332-	3300	500	black	orange	orange	red	.45

For A characteristic use list price. For B characteristic use list price. For C characteristic (silvered mica) add 75% to list price. For D characteristic (silvered mica cycled) add 100% to list price. For ± 20% use list price. For ± 10% add 10% to the list price. For ± 5% add 20% to the list price. For ± 2% add 75% to the list price.



Type C: CM-35



C-1230*	CM35-302-	3000	500	black	orange	black	red	.45
C-1233*	CM35-332-	3300	500	black	orange	orange	red	.45
C-1236	CM35-362-	3600	500	black	orange	blue	red	.50
C-1239	CM35-392-	3900	500	black	orange	white	red	.50
C-1243	CM35-432-	4300	500	black	yellow	red	red	.55
C-1247	CM35-472-	4700	500	black	yellow	violet	red	.65
C-1251	CM35-512-	5100	500	black	green	brown	red	.65
C-1256	CM35-562-	5600	500	black	green	blue	red	.65
C-1262	CM35-622-	6200	500	black	blue	red	red	.70
C-06268	CM35-682-	6800	300	black	blue	gray	red	.80
C-06275	CM35-752-	7500	300	black	violet	green	red	.90
C-06282	CM35-822-	8200	300	black	gray	red	red	1.00
C-06110	CM35-102-	10000	300	black	brown	black	orange	1.15

For A characteristic use list price.
For B characteristic use list price.
For C characteristic add 75% to list price.
For D characteristic add 100% to list price.

*Preferable case size for these capacities.
For ± 20% use list price.
For ± 10% add 10% to list price.
For ± 5% add 20% to list price.

SANGAMO CAPACITORS

GENERAL INFORMATION
Relating to All Sangamo Capacitors

All list prices are subject to change without notice. When possible ample notice of price changes will be given, but due to uncertainties with regard to prices of raw materials it may not always be possible to do this.

When ordering be sure to give complete designation, including catalog number, capacity, and voltage ratings. Where special characteristics are desired, specify these by adding proper suffix letter or by complete description of the characteristics desired.

In many instances capacities in addition to those listed are available in various type units. Inquiry should be made to the factory in those cases where capacities other than those listed are required for information as to their availability.

The various characteristic designations used throughout this catalog are in accordance with those specified in the American War Standard for Fixed Mica Dielectric Capacitors, C75.3—1942. Details of these characteristics are indicated in the Characteristic Table below. Color code markings are also those specified in the above standard, and will be used where customer does not specify a different color code marking. Wherever possible case type designations as indicated by the War Standard have been shown.

Shipping instructions should accompany all orders. If no shipping instructions are furnished, the method of transportation considered to be most satisfactory will be used. All shipments are insured against non-delivery, unless otherwise instructed.

CHARACTERISTIC DESIGNATIONS

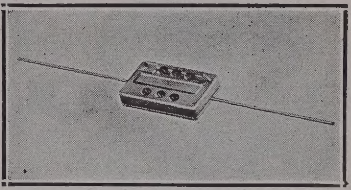
Characteristic	Q	Temperature Coefficient Parts/Million/Deg. C	Maximum Capacitance Drift (F-6)	Verification of Characteristics By Production Test
A	Not specified	Not specified	Not specified	Not required
B	(As specified in D-5c(1))	Not specified	Not specified	Not required
C	"	—200 to +200	0.5 percent	Not required
D	"	—100 to +100	0.2 percent	Not required
E	"	0 to +100	0.05 percent	Not required
F	"	0 to + 50	0.025 percent	Required
G	"	0 to — 50	0.025 percent	Required

TYPE J MICA CAPACITOR

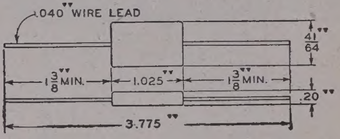
Cat. No.	A.S.A. Type Designation	Cap. mmf.	DC Wkg. Voltage	COLOR CODE Upper Left Dot	Upper Center Dot	Upper Right Dot	Lower Right Dot	List Price
J-1310		100	500	black	brown	black	brown	.40
J-1325		250	500	black	red	green	brown	.40
J-1350		500	500	black	green	black	brown	.40
J-1210		1000	500	black	brown	black	red	.45
J-1220		2000	500	black	red	black	red	.50
J-1225		2500	500	black	red	green	red	.50
J-1230		3000	500	black	orange	black	red	.55
J-1233	CM40-332-	3300	500	black	orange	orange	red	.55
J-1236	CM40-362-	3600	500	black	orange	blue	red	.60
J-1239	CM40-392-	3900	500	black	orange	white	red	.60
J-1243	CM40-432-	4300	500	black	yellow	orange	red	.65
J-1247	CM40-472-	4700	500	black	yellow	violet	red	.65
J-1251	CM40-512-	5100	500	black	green	brown	red	.70
J-1256	CM40-562-	5600	500	black	green	blue	red	.75
J-1262	CM40-622-	6200	500	black	blue	red	red	.80
J-1268	CM40-682-	6800	500	black	blue	gray	red	.85
J-1275	CM40-752-	7500	500	black	violet	green	red	.90
J-1282	CM40-822-	8200	500	black	gray	red	red	.95
J-06291	CM40-912-	9100	300	black	white	brown	red	1.00
J-06110	CM40-103-	10000	300	black	brown	black	orange	1.10

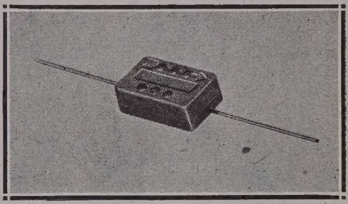
For A characteristic use list price.
For B characteristic use list price.

For ± 20% use list price.
For ± 10% add 10% to list price.
For ± 5% add 20% to list price.

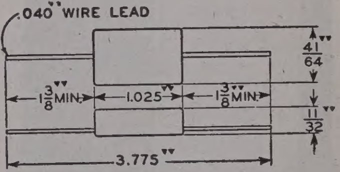


Type J (Thin)





Type J: CM-40

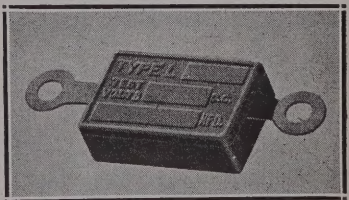


TYPE L MICA CAPACITOR

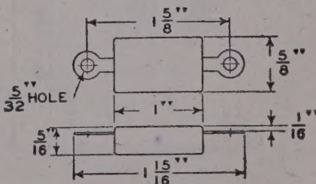
Cat. No.	Cap. mfd.	DC Test Voltage	DC Wkg. Voltage	List Price
L-1450	.00005	1000	500	$0.50
L-1470	.00007	1000	500	.50
L-1475	.000075	1000	500	.50
L-1310	.0001	1000	500	.50
L-1320	.0002	1000	500	.50
L-1325	.00025	1000	500	.50
L-1335	.00035	1000	500	.50
L-1350	.0005	1000	500	.50
L-1210	.001	1000	500	.55
L-1215	.0015	1000	500	.60
L-1220	.002	1000	500	.65
L-1225	.0025	1000	500	.70
L-1230	.003	1000	500	.75
L-1240	.004	1000	500	.80
L-1250	.005	1000	500	.90
L-0626	.006	600	300	1.00
L-0628	.008	600	300	1.10
L-0611	.01	600	300	1.20

For A characteristic use list price.
For B characteristic use list price.

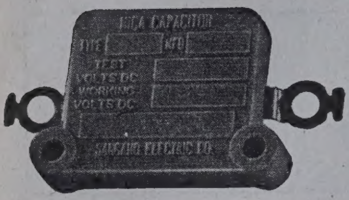
For ± 20% use list price.
For ± 10% add 10% to list price.
For ± 5% add 20% to list price.



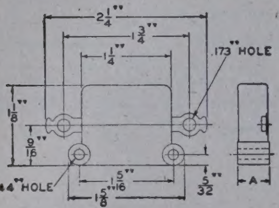
Type L



SANGAMO CAPACITORS



Type H: CM-45



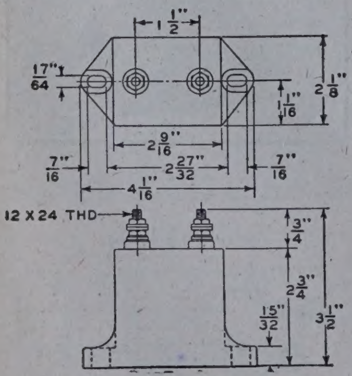
TYPE H MICA CAPACITOR

Cat. No.	ASA Case No.	Capacity	DC Test Volt.	DC Wkg. Volt.	List Price
H-1450	CM45	.00005	1000	600	$0.50
H-1310	CM45	.0001	1000	600	.50
H-1320	CM45	.0002	1000	600	.50
H-1325	CM45	.00025	1000	600	.50
H-1330	CM45	.0003	1000	600	.50
H-1340	CM45	.0004	1000	600	.50
H-1350	CM45	.0005	1000	600	.50
H-1210	CM45	.001	1000	600	.50
H-1215	CM45	.0015	1000	600	.50
H-1220	CM45	.002	1000	600	.60
H-1225	CM45	.0025	1000	600	.70
H-1230	CM45	.003	1000	600	.70
H-1240	CM45	.004	1000	600	.70
H-1250	CM45	.005	1000	600	.70
H-1260	CM45	.006	1000	600	.85
H-1280	CM45	.008	1000	600	1.00
H-1110	CM45	.01	1000	600	1.20
H-1115	CM50	.015	1000	600	1.35
H-1120	CM50	.02	1000	600	1.60
H-1125	CM50	.025	1000	600	1.90
H-1130	CM50	.03	1000	600	2.10
H-2450	CM45	.00005	2500	1200	.70
H-2310	CM45	.0001	2500	1200	.70
H-2320	CM45	.0002	2500	1200	.70
H-2325	CM45	.00025	2500	1200	.70
H-2330	CM45	.0003	2500	1200	.70
H-2350	CM45	.0005	2500	1200	.70
H-2210	CM45	.001	2500	1200	.90
H-2215	CM45	.0015	2500	1200	1.20
H-2220	CM45	.002	2500	1200	1.35
H-2225	CM45	.0025	2500	1200	1.45
H-2230	CM45	.003	2500	1200	1.60
H-2240	CM50	.004	2500	1200	1.60
H-2250	CM50	.005	2500	1200	1.75
H-2260	CM50	.006	2500	1200	1.75
H-2280	CM50	.008	2500	1200	2.25
H-2110	CM50	.01	2500	1200	2.80
H-5450	CM45	.00005	5000	2500	.90
H-5310	CM45	.0001	5000	2500	.90
H-5320	CM45	.0002	5000	2500	1.10
H-5325	CM45	.00025	5000	2500	1.10
H-5330	CM45	.0003	5000	2500	1.15
H-5350	CM45	.0005	5000	2500	1.25
H-5210	CM45	.001	5000	2500	1.50
H-5215	CM45	.0015	5000	2500	1.95
H-5220	CM45	.002	5000	2500	2.25
H-5225	CM50	.0025	5000	2500	2.50
H-5230	CM50	.003	5000	2500	2.75
H-5240	CM50	.004	5000	2500	3.15
H-5250	CM50	.005	5000	2500	3.30

For A characteristic use list price. For B characteristic use list price. For ± 20% tolerance use list price. For ± 10% add 10% to the list price. For ± 5% add 20% to the list price. For ± 2% add 75% to the list price. For Meter mounting brackets (add letter E to type designation) add 30 cents to the list price when assembled on Condenser. For Meter mounting brackets add 20 cents to the list price not assembled on Condenser (specify case size).

TYPE
SANGAMO
E
MICA CONDENSER
SANGAMO ELECTRIC CO
Springfield, Illinois
U. S. A.

Type E



TYPE E MICA CAPACITOR, For Amateur Transmitters

Catalog Number	Cap. mfds.	D.C. Test Volts	MAXIMUM OPERATING CURRENT IN AMPERES 15,000 KC	7,500 KC	3,750 KC	1,875 KC	List Price
E-1245	00005	12500	3.0	2.5	1.75	1.0	$ 7.25
E-1231	0001	12500	5.0	4.0	3.0	2.0	7.25
E-12325	00025	12500	7.0	8.0	6.0	4.0	7.25
E-1235	0005	12500	8.0	9.0	8.0	7.0	7.25
E-721	001	7000	8.0	9.0	10.0	8.0	6.60
E-1221	001	12500	9.0	10.0	11.0	12.0	7.25
E-7215	0015	7000	9.0	9.0	10.0	8.0	7.25
E-12215	0015	12500	9.0	10.0	11.0	12.0	8.60
E-722	002	7000	8.0	9.0	10.0	10.0	8.60
E-1222	002	12500	9.0	12.0	13.0	15.0	9.90
E-723	003	7000	9.0	10.0	10.0	10.0	9.25
E-1023	003	10000	9.0	12.0	13.0	15.0	11.90
E-3524	004	3500	8.0	9.0	9.0	8.0	9.25
E-724	004	7000	9.0	10.0	10.0	10.0	11.90
E-1024	004	10000	10.0	11.0	13.0	14.0	12.55
E-3525	005	3500	9.0	11.0	11.0	10.0	8.60
E-725	005	7000	9.0	11.0	12.0	11.0	9.90
E-1025	005	10000	10.0	13.0	14.0	15.0	13.20
E-3511	01	3500	10.0	12.0	14.0	12.0	13.20
E-711	01	7000	10.0	13.0	15.0	15.0	13.85
E-212	02	2000	10.0	13.0	16.0	15.0	12.25
E-3512	02	3500	10.0	13.0	17.0	17.0	13.20
E-215	05	2000	10.0	15.0	16.0	17.0	13.20
E-3515	05	3500	11.0	14.0	16.0	18.0	15.20
E-201	0.1	2000	11.0	14.0	16.0	18.0	15.20

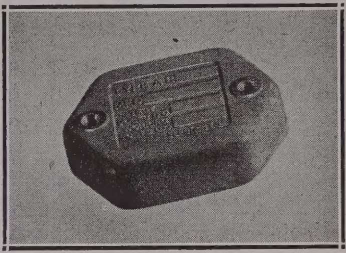
Standard tolerance ± 20%. For ± 10% add 50c to the list price. For ± 5% add $1.00 to the list price. For ± 2% add $2.00 to the list price. Recommended for amateur installations. Vacuum impregnated with special low loss wax.

SEE "GENERAL INFORMATION" ON PAGE K-7

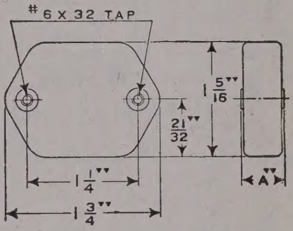
SANGAMO CAPACITORS

TYPE A-2 MICA CAPACITOR

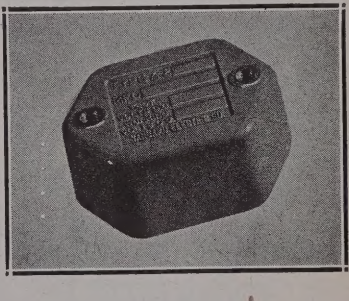
Cat. No.	ASA Case No.	Capacity	DC Test Volt.	DC Wkg. Volt.	List Price
A2-1450	CM55	.00005	1200	600	$0.65
A2-1310	CM55	.0001	1200	600	.65
A2-1315	CM55	.00015	1200	600	.65
A2-1320	CM55	.0002	1200	600	.65
A2-1325	CM55	.00025	1200	600	.65
A2-1350	CM55	.0005	1200	600	.65
A2-1210	CM55	.001	1200	600	.65
A2-1215	CM55	.0015	1200	600	.70
A2-1220	CM55	.002	1200	600	.70
A2-1225	CM55	.0025	1200	600	.80
A2-1230	CM55	.003	1200	600	.85
A2-1240	CM55	.004	1200	600	.85
A2-1250	CM55	.005	1200	600	.85
A2-1260	CM55	.006	1200	600	1.00
A2-1280	CM55	.008	1200	600	1.20
A2-1110	CM55	.01	1200	600	1.40
A2-1120	CM55	.02	1200	600	1.85
A2-1125	CM60	.025	1200	600	2.30
A2-1130	CM60	.03	1200	600	2.50
A2-1140	CM60	.04	1200	600	3.25
A2-1150	CM60	.05	1200	600	3.80
A2-2450	CM55	.00005	2500	1200	.70
A2-2310	CM55	.0001	2500	1200	.70
A2-2315	CM55	.00015	2500	1200	.70
A2-2320	CM55	.0002	2500	1200	.70
A2-2325	CM55	.00025	2500	1200	.70
A2-2350	CM55	.0005	2500	1200	.70
A2-2210	CM55	.001	2500	1200	.90
A2-2215	CM55	.0015	2500	1200	1.20
A2-2220	CM55	.002	2500	1200	1.35
A2-2230	CM55	.003	2500	1200	1.60
A2-2240	CM55	.004	2500	1200	1.60
A2-2250	CM55	.005	2500	1200	1.75
A2-2260	CM55	.006	2500	1200	1.75
A2-2280	CM55	.008	2500	1200	2.25
A2-2110	CM55	.01	2500	1200	2.80
A2-2115	CM60	.015	2500	1200	3.35
A2-2120	CM60	.02	2500	1200	3.90
A2-2125	CM60	.025	2500	1200	4.35
A2-5450	CM55	.00005	5000	2500	.90
A2-5310	CM55	.0001	5000	2500	.90
A2-5315	CM55	.00015	5000	2500	1.00
A2-5320	CM55	.0002	5000	2500	1.05
A2-5325	CM55	.00025	5000	2500	1.05
A2-5350	CM55	.0005	5000	2500	1.25
A2-5210	CM55	.001	5000	2500	1.50
A2-5215	CM55	.0015	5000	2500	1.95
A2-5220	CM55	.002	5000	2500	2.25
A2-5230	CM55	.003	5000	2500	2.75
A2-5240	CM55	.004	5000	2500	3.15
A2-5250	CM55	.005	5000	2500	3.30
A2-5260	CM55	.006	5000	2500	3.45
A2-5280	CM60	.008	5000	2500	3.80
A2-5110	CM60	.01	5000	2500	4.10
A2-5115	CM60	.015	5000	2500	4.45



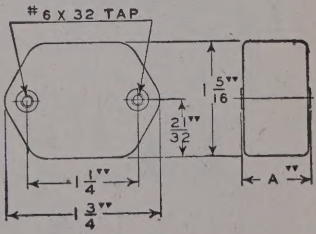
Type A-2
CM-55 *CM-56



*CM56—Furnished with .144" clearance holes. Designate as Type A-2-A.



Type A-2
CM-60 *CM-61



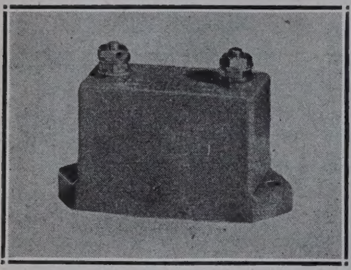
*CM61—Furnished with .144" clearance holes. Designate as Type A-2-A.

For B characteristic use list price. For C characteristic add 15c to the list price. For D characteristic add 75c to the list price. For ± 20% tolerance use list price. For ± 10% tolerance add 10% to the list price. For ± 5% tolerance add 20% to the list price. For ± 2% tolerance add 75% to the list price.

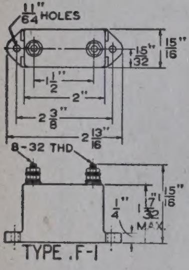
The following characteristics in CM60 cases only: For E characteristic add $1.00 to the list price. For F characteristic add $1.25 to the list price.

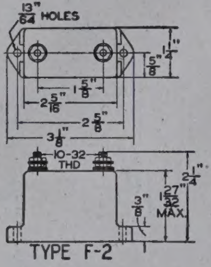
SEE "GENERAL INFORMATION" ON PAGE K-7

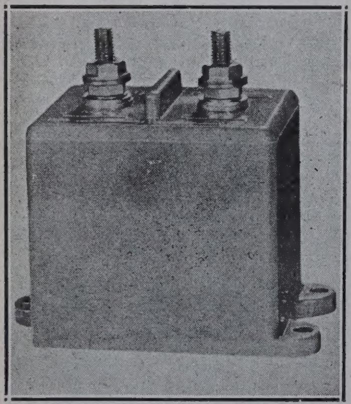
SANGAMO CAPACITORS



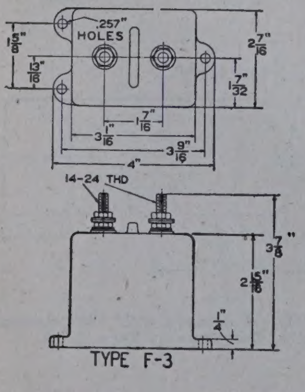
Type F-1 and F-2







Type F-3



SEE "GENERAL INFORMATION" ON PAGE K-7

TYPE F-1 MICA CAPACITOR

Catalog Number	Cap. mfds.	Test Volts Effective Peak Wkg.	MAXIMUM OPERATING CURRENT IN AMPERES				List Price
			3,000 KC	1,000 KC	300 KC	100 KC	
F1L-341	00001	3000	.5	.2	.06	.02	$ 9.90
F1L-342	00002	3000	.8	.3	.10	.03	9.90
F1L-345	00005	3000	1.3	.5	.18	.05	9.90
F1L-331	0001	3000	1.8	.75	.33	.10	9.90
F1L-3315	00015	3000	2.2	1.0	.47	.18	9.90
F1L-332	0002	3000	2.5	1.2	.62	.24	9.90
F1L-3325	00025	3000	2.8	1.0	.70	.30	9.90
F1L-333	0003	3000	3.0	1.5	.75	.36	9.90
F1L-334	0004	3000	3.5	1.8	.95	.45	9.90
F1L-335	0005	3000	3.6	2.0	1.10	.50	9.90
F1L-336	0006	3000	3.9	2.4	1.2	.56	9.90
F1L-3375	00075	3000	4.3	2.7	1.3	.62	9.90
F1L-338	0008	3000	4.4	2.7	1.5	.65	9.90
F1L-321	001	3000	4.7	3.0	1.6	.75	9.90
F1L-3215	0015	3000	5.6	3.9	2.0	.95	9.90
F1L-322	002	3000	6.2	4.3	2.4	1.1	9.90
F1L-3225	0025	3000	6.8	4.7	2.7	1.2	9.90
F1L-223	003	2000	7.5	5.1	3.0	1.4	9.90
F1L-224	004	2000	8.2	6.2	3.5	1.6	9.90
F1L-225	005	2000	8.5	6.8	3.8	1.8	9.90
F1L-226	006	2000	9.1	7.5	4.2	2.0	9.90
F1L-1528	008	1500	10.0	8.2	4.7	2.3	9.90
F1L-111	01	1000	10.0	9.1	5.1	2.5	9.90
F1L-112	02	1000	11.0	11.0	7.5	3.6	10.45
F1L-0215	05	250	11.0	11.0	9.1	4.7	10.45
F1L-0201	0.1	250	11.0	11.0	9.1	5.6	11.00

TYPE F-2 MICA CAPACITOR

F2L-545	00005	5000	1.6	.7	.30	.07	$14.30
F2L-531	0001	5000	2.4	1.2	.47	.10	14.30
F2L-5315	00015	5000	3.3	1.8	.68	.24	14.30
F2L-532	0002	5000	3.6	2.0	.82	.33	14.30
F2L-5325	00025	5000	3.9	2.4	1.00	.43	14.30
F2L-533	0003	5000	4.1	2.7	1.1	.51	14.30
F2L-534	0004	5000	4.5	3.0	1.3	.65	14.30
F2L-535	0005	5000	4.8	3.3	1.6	.75	14.30
F2L-536	0006	5000	5.1	3.6	1.8	.82	14.30
F2L-5375	00075	5000	5.6	3.9	2.2	.91	14.30
F2L-538	0008	5000	5.7	4.0	2.3	1.0	14.30
F2L-521	001	5000	6.2	4.4	2.4	1.2	14.30
F2L-5215	0015	5000	6.8	5.2	3.3	1.5	14.30
F2L-522	002	5000	7.5	6.2	3.7	1.8	14.30
F2L-5225	0025	5000	8.2	6.5	4.3	2.1	14.30
F2L-523	003	5000	8.5	6.8	4.7	2.3	15.40
F2L-424	004	4000	9.1	7.5	5.6	2.7	15.40
F2L-325	005	3000	9.5	8.5	6.2	3.0	14.30
F2L-326	006	3000	10.0	9.1	6.2	3.6	14.30
F2L-328	008	3000	10.5	10.0	7.5	3.9	14.30
F2L-211	01	2000	11.0	11.0	8.2	4.3	14.30
F2L-2115	015	2000	12.0	12.0	10.0	5.1	14.30
F2L-212	02	2000	13.0	13.0	11.0	6.2	15.40
F2L-213	03	2000	14.0	15.0	12.0	6.8	15.40
F2L-1514	04	1500	15.0	16.0	13.0	7.5	14.30
F2L-1515	05	1500	15.0	16.0	15.0	7.8	14.85
F2L-0501	.1	500	15.0	18.0	15.0	8.2	15.95
F2L-0202	.2	250	16.0	18.0	15.0	9.0	20.90
F2L-02025	.25	250	16.0	18.0	15.0	9.0	23.10

Types F-1 and F-2 Mica Capacitors:
For B characteristic use list price. For C characteristic add $.50 to the list price. For D characteristic add $1.00 to the list price. For E characteristic add $1.50 to the list price. For F characteristic add $2.00 to the list price. For G characteristic add $5.00 to the list price. For ± 2% add $1.50 to the list price.
Characteristics D, E, & F require 50% reduction in current rating. Characteristic G requires 50% reduction in voltage and current rating.

TYPE F-3 MICA CAPACITOR

F3L-8325	00025	8000	7.5	5.0	1.5	.5	$29.15
F3L-835	0005	8000	8.5	6.0	3.0	1.0	29.15
F3L-821	001	8000	10.0	8.5	4.5	1.5	32.45
F3L-822	002	8000	11.5	11.5	7.5	3.0	32.45
F3L-823	003	8000	12.5	13.5	9.5	4.0	34.65
F3L-824	004	8000	13.5	15.5	10.5	5.0	36.85
F3L-825	005	8000	14.0	16.0	11.5	6.0	40.15
F3L-826	006	8000	15.0	17.0	12.5	6.5	40.15
F3L-828	008	8000	16.0	19.0	14.0	7.5	42.90
F3L-811	01	8000	17.0	20.0	15.0	8.5	45.65
F3L-512	02	5000	18.0	23.0	18.0	10.5	45.65
F3L-413	03	4000	18.0	24.0	19.0	11.5	45.65
F3L-414	04	4000	18.0	24.0	20.0	12.0	48.95
F3L-415	05	4000	18.0	25.0	21.0	12.0	51.15
F3L-201	.1	2000	18.0	25.0	22.0	12.0	40.15
F3L-0602	.2	600	18.0	25.0	22.0	12.0	32.45
F3L-06025	.25	600	18.0	25.0	22.0	12.0	36.85
F3L-0603	.3	600	18.0	25.0	22.0	12.0	36.85
F3L-0604	.4	600	18.0	25.0	22.0	12.0	40.15
F3L-0605	.5	600	18.0	25.0	22.0	12.0	43.45
F3L-0606	.6	600	18.0	25.0	22.0	12.0	51.15
F3L-06075	.75	600	18.0	25.0	22.0	12.0	58.85
F3L-0610	1.0	600	18.0	25.0	22.0	12.0	67.65

For B characteristic use list price. For C characteristic add $4.00 to the list price. For D characteristic add $5.00 to the list price. For ± 2% add $2.00 to the list price.
Characteristic D requires 50% reduction in current rating.

SANGAMO CAPACITORS

TYPE G-1 MICA CAPACITOR

Cat. No.	Cap. mfds.	Test Volts Effective. Peak Wkg.	MAXIMUM OPERATING CURRENT IN AMPERES 3000 KC	1000 KC	300 KC	100 KC	List Price
G1-641	00001	6000	.5	.3	.1	.05	$22.00
G1-6425	000025	6000	1.0	.6	.2	.10	23.10
G1-645	00005	6000	2.0	1.3	.55	.18	24.20
G1-6475	000075	6000	2.5	1.7	.70	.23	25.30
G1-631	0001	6000	3.0	2.0	.91	.30	26.40
G1-63125	000125	6000	3.3	2.3	1.0	.35	27.50
G1-6315	00015	6000	3.7	2.5	1.2	.40	28.60
G1-632	0002	6000	4.4	3.1	1.5	.55	28.60
G1-6325	00025	6000	4.9	3.6	1.8	.60	28.60
G1-633	0003	6000	5.4	3.9	2.0	.65	29.70
G1-6335	00035	6000	6.0	4.3	2.4	.75	29.70
G1-634	0004	6000	6.5	4.7	2.7	.82	29.70
G1-635	0005	6000	7.2	5.3	3.0	1.00	29.70
G1-636	0006	6000	8.2	6.2	3.6	1.20	29.70
G1-637	0007	6000	8.5	6.5	3.9	1.40	29.70
G1-638	0008	6000	9.1	6.8	4.3	1.50	29.70
G1-621	001	6000	10.0	7.5	5.1	1.80	29.70
G1-6215	0015	6000	12.0	9.1	6.2	2.40	30.80
G1-622	002	6000	13.0	11.0	7.5	3.30	30.80
G1-6225	0025	6000	15.0	13.0	9.1	3.90	31.90
G1-623	003	6000	15.5	13.5	9.5	4.50	31.90
G1-624	004	6000	16.0	15.0	11.0	5.70	31.90
G1-625	005	6000	16.5	17.0	12.5	6.50	33.00
G1-526	006	5000	17.0	18.0	13.0	7.50	33.00
G1-527	007	5000	17.5	19.0	14.0	7.80	33.00
G1-528	008	5000	18.0	20.0	15.0	8.20	33.00
G1-511	01	5000	18.0	21.0	15.0	9.10	33.00
G1-4115	015	4000	18.0	21.0	16.0	10.00	33.00
G1-312	02	3000	18.0	22.0	18.0	11.00	33.00

TYPE G-2 MICA CAPACITOR

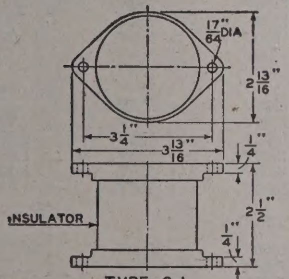
G2-1031	0001	10000	4.5	3.2	1.5	.50	$41.80
G2-10315	00015	10000	5.5	4.0	2.0	.65	41.80
G2-1032	0002	10000	6.5	4.6	2.5	.85	41.80
G2-10325	00025	10000	7.2	5.1	2.7	1.00	41.80
G2-1035	0005	10000	9.1	7.0	4.0	1.60	41.80
G2-1036	0006	10000	11.0	8.2	4.7	1.80	41.80
G2-1038	0008	10000	11.5	9.1	5.1	2.20	41.80
G2-1021	001	10000	12.0	10.0	6.2	2.50	41.80
G2-10212	0012	10000	15.0	11.0	6.8	2.70	41.80
G2-10215	0015	10000	15.5	10.0	7.5	3.00	41.80
G2-1022	002	10000	16.0	13.0	8.2	3.60	41.80
G2-823	003	8000	18.0	16.0	10.0	4.70	41.80
G2-824	004	8000	20.0	18.0	12.0	5.60	41.80
G2-525	005	5000	20.0	20.0	13.0	6.50	41.80
G2-526	006	5000	20.0	22.0	15.0	6.80	44.00
G2-528	008	5000	20.0	24.0	16.0	8.20	44.00
G2-511	01	5000	20.0	24.0	18.0	9.10	44.00
G2-4115	015	4000	20.0	27.0	20.0	11.00	44.00
G2-312	02	3000	20.0	30.0	22.0	13.00	44.00

TYPE G-3 MICA CAPACITOR

Cat. No.	Cap. mfds.	Test Volts Effective. Peak Wkg.	MAXIMUM OPERATING CURRENT IN AMPERES 3000 KC	1000 KC	300 KC	100 KC	List Price
G3-2045	00005	20000	5.1	2.4	.51	.15	$66.00
G3-2531	0001	25000	7.0	4.0	1.4	.50	66.00
G3-20315	00015	20000	8.2	5.0	2.1	.85	73.70
G3-2032	0002	20000	9.1	6.0	2.7	1.10	73.70
G3-20325	00025	20000	10.0	6.5	3.6	1.40	73.70
G3-2033	0003	20000	10.0	7.0	4.0	1.60	73.70
G3-2034	0004	20000	12.0	8.2	4.5	2.10	73.70
G3-2035	0005	20000	12.5	9.1	5.3	2.50	73.70
G3-2036	0006	20000	13.0	11.0	6.2	2.70	73.70
G3-2038	0008	20000	15.0	12.0	6.8	3.30	73.70
G3-2021	001	20000	15.5	14.0	8.2	3.60	73.70
G3-20212	0012	20000	16.0	15.0	8.5	4.30	73.70
G3-20215	0015	20000	17.0	16.0	9.5	4.70	73.70
G3-1522	002	15000	19.0	20.0	11.0	5.60	77.00
G3-15225	0025	15000	20.0	22.0	13.0	6.20	77.00
G3-1523	003	15000	21.0	24.0	14.0	6.80	82.50
G3-1524	004	15000	22.0	27.0	16.0	8.20	82.50
G3-1025	005	10000	24.0	30.0	18.0	9.10	82.50
G3-1026	006	10000	24.0	33.0	20.0	10.00	87.50
G3-1028	008	10000	24.0	36.0	22.0	11.00	90.50
G3-1011	01	10000	25.0	39.0	24.0	12.00	93.50
G3-512	02	5000	25.0	47.0	30.0	18.00	88.00
G3-313	03	3000	25.0	51.0	33.0	20.00	77.00

TYPE G-4 MICA CAPACITOR

G4-3043	00003	30000	3.0	1.0	.3	.10	$93.50
G4-3045	00005	30000	4.0	1.0	.3	.10	99.00
G4-3531	0001	35000	8.0	5.3	2.1	.70	104.50
G4-30315	00015	30000	9.5	6.5	3.0	1.30	121.00
G4-30325	00025	30000	11.0	9.1	4.7	2.20	121.00
G4-3034	0004	30000	13.0	11.0	6.2	3.00	121.00
G4-3035	0005	30000	13.0	12.0	7.0	3.50	121.00
G4-3036	0006	30000	15.0	13.0	8.2	4.00	126.50
G4-3038	0008	30000	16.0	15.0	9.1	4.70	126.50
G4-3021	001	30000	18.0	16.0	10.0	5.10	126.50
G4-25215	0015	25000	20.0	20.0	12.0	6.20	104.50
G4-2022	002	20000	22.0	22.0	15.0	7.50	104.50
G4-20225	0025	20000	22.0	24.0	15.0	8.50	110.00
G4-2023	003	20000	24.0	27.0	18.0	9.10	110.00
G4-2024	004	20000	25.0	30.0	20.0	11.00	110.00
G4-1525	005	15000	27.0	33.0	22.0	12.00	118.00
G4-1526	006	15000	27.0	36.0	24.0	15.00	126.50
G4-1228	008	12000	30.0	39.0	27.0	16.00	132.00
G4-1011	01	10000	30.0	43.0	30.0	18.00	132.00
G4-612	02	6000	30.0	51.0	36.0	23.00	132.00
G4-514	04	5000	30.0	56.0	39.0	30.00	121.00



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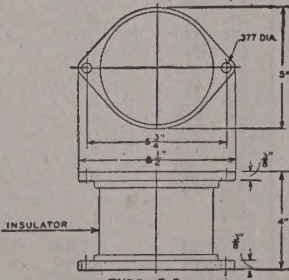

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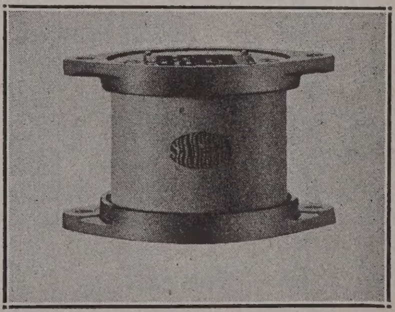

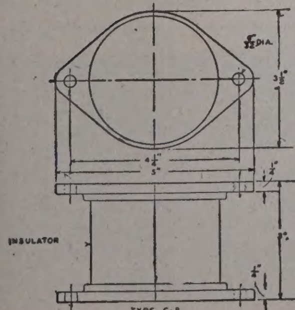

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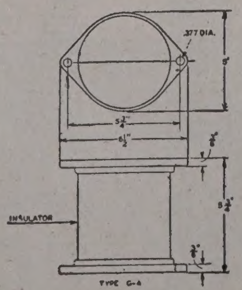


TYPE G-4

TYPES G-1, G-2, G-3:

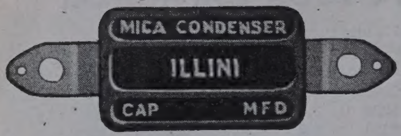
For B characteristic use list price.
For C characteristic add $1.00 to the list price.
For D characteristic add 2.50 to the list price.
For E characteristic add 3.50 to the list price.
For F characteristic add 5.00 to the list price.
Characteristics D, E and F require 50% reduction in current rating.

TYPE G-4:

For B characteristic use list price.
For C characteristic add $2.50 to the list price.
For D characteristic add 4.00 to the list price.
For E characteristic add 7.50 to the list price.
For F characteristic add 10.00 to the list price.
Characteristics D, E and F require 50% reduction in current rating.

SEE "GENERAL INFORMATION" ON PAGE K-7

SANGAMO CAPACITORS



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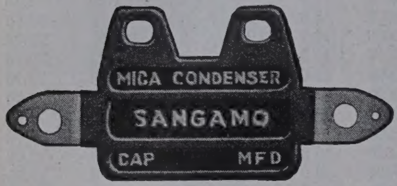

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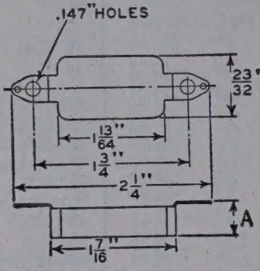

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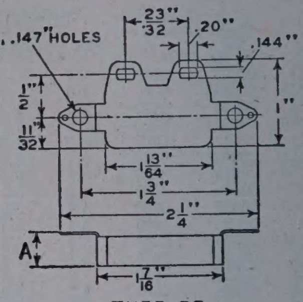


TYPE BE

TYPE B MICA CAPACITOR

TYPE B-10

Cat. No.	Cap. mfd.	DC Test	DC Wkg.	List Price
B-1450	.00005	1000V.	500V.	$0.55
B-1470	.00007	1000V.	500V.	.55
B-1475	.000075	1000V.	500V.	.55
B-1310	.0001	1000V.	500V.	.55
B-1320	.0002	1000V.	500V.	.55
B-1325	.00025	1000V.	500V.	.55
B-1335	.00035	1000V.	500V.	.55
B-1350	.0005	1000V.	500V.	.55
B-1210	.001	1000V.	500V.	.60
B-1215	.0015	1000V.	500V.	.65
B-1220	.002	1000V.	500V.	.65
B-1225	.0025	1000V.	500V.	.70
B-1230	.003	1000V.	500V.	.75
B-1240	.004	1000V.	500V.	.80
B-1250	.005	1000V.	500V.	.85
B-1260	.006	1000V.	500V.	.95
B-1280	.008	1000V.	500V.	1.00
B-1110	.01	1000V.	500V.	1.10

TYPE B-25

Cat. No.	Cap. mfd.	DC Test	DC Wkg.	List Price
B-2450	.00005	2500V.	1200V.	$0.70
B-2470	.00007	2500V.	1200V.	.70
B-2475	.000075	2500V.	1200V.	.70
B-2310	.0001	2500V.	1200V.	.70
B-2320	.0002	2500V.	1200V.	.70
B-2325	.00025	2500V.	1200V.	.70
B-2335	.00035	2500V.	1200V.	.80
B-2350	.0005	2500V.	1200V.	.80
B-2210	.001	2500V.	1200V.	.90
B-2220	.002	2500V.	1200V.	1.05
B-2230	.003	2500V.	1200V.	1.30
B-2240	.004	2500V.	1200V.	1.50
B-2250	.005	2500V.	1200V.	1.70

TYPE B-50

Cat. No.	Cap. mfd.	DC Test	DC Wkg.	List Price
B-5450	.00005	5000V.	2500V.	$0.75
B-5310	.0001	5000V.	2500V.	.75
B-5325	.00025	5000V.	2500V.	.80
B-5350	.0005	5000V.	2500V.	.95
B-5210	.001	5000V.	2500V.	1.10
B 5220	.002	5000V.	2500V.	1.65

TYPES B AND BE:

Standard Tolerance plus or minus 20%.
For plus or minus 10% add 10% to the list price.
For plus or minus 5% add 20% to the list price.
For plus or minus 2% add 75% to the list price.
Mounting brackets for the Type BE condenser 20c list.

TYPE BE MICA CAPACITOR

TYPE BE-10

Cat. No.	Cap. mfd.	DC Test	DC Wkg.	List Price
BE-1450	.00005	1000V.	500V.	$0.55
BE-1470	.00007	1000V.	500V.	.55
BE-1475	.000075	1000V.	500V.	.55
BE-1310	.0001	1000V.	500V.	.55
BE-1320	.0002	1000V.	500V.	.55
BE-1325	.00025	1000V.	500V.	.55
BE-1350	.0005	1000V.	500V.	.55
BE-1335	.00035	1000V.	500V.	.55
BE-1210	.001	1000V.	500V.	.60
BE-1215	.0015	1000V.	500V.	.65
BE-1220	.002	1000V.	500V.	.65
BE-1225	.0025	1000V.	500V.	.70
BE-1230	.003	1000V.	500V.	.75
BE-1240	.004	1000V.	500V.	.80
BE-1250	.005	1000V.	500V.	.85
BE-1260	.006	1000V.	500V.	.95
BE-1280	.008	1000V.	500V.	1.00
BE-1110	.01	1000V.	500V.	1.10

TYPE BE-15

Cat. No.	Cap. mfd.	DC Test	DC Wkg.	List Price
BE-15450	.00005	1500V.	750V.	$0.60
BE-15470	.00007	1500V.	750V.	.60
BE-15475	.000075	1500V.	750V.	.60
BE-15310	.0001	1500V.	750V.	.60
BE-15320	.0002	1500V.	750V.	.60
BE-15325	.00025	1500V.	750V.	.60
BE-15335	.00035	1500V.	750V.	.60
BE-15350	.0005	1500V.	750V.	.60
BE-15210	.001	1500V.	750V.	.70
BE-15215	.0015	1500V.	750V.	.75
BE-15220	.002	1500V.	750V.	.75
BE-15225	.0025	1500V.	750V.	.80
BE-15230	.003	1500V.	750V.	.85
BE-15240	.004	1500V.	750V.	.90
BE-15250	.005	1500V.	750V.	.95
BE-15260	.006	1500V.	750V.	1.05
BE-15280	.008	1500V.	750V.	1.10
BE-15110	.01	1500V.	750V.	1.25

TYPE BE-25

Cat. No.	Cap. mfd.	DC Test	DC Wkg.	List Price
BE-2450	.00005	2500V.	1200V.	$0.70
BE-2470	.00007	2500V.	1200V.	.70
BE-2475	.000075	2500V.	1200V.	.70
BE-2310	.0001	2500V.	1200V.	.70
BE-2320	.0002	2500V.	1200V.	.70
BE-2325	.00025	2500V.	1200V.	.70
BE-2335	.00035	2500V.	1200V.	.80
BE-2350	.0005	2500V.	1200V.	.80
BE-2210	.001	2500V.	1200V.	.90
BE-2220	.002	2500V.	1200V.	1.05
BE-2230	.003	2500V.	1200V.	1.30
BE-2240	.004	2500V.	1200V.	1.50
BE-2250	.005	2500V.	1200V.	1.70

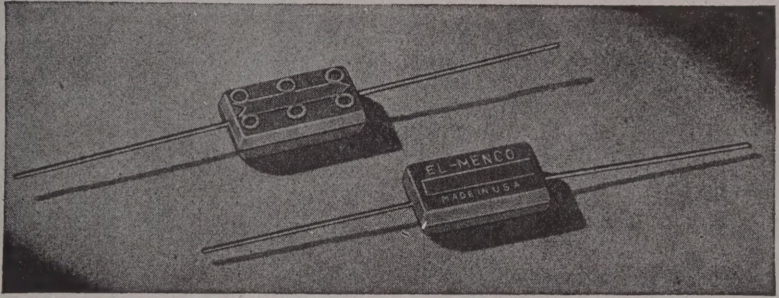
TYPE BE-50

Cat. No.	Cap. mfd.	DC Test	DC Wkg.	List Price
BE-5450	.00005	5000V.	2500V.	$0.75
BE-5310	.0001	5000V.	2500V.	.75
BE-5325	.00025	5000V.	2500V.	.80
BE-5350	.0005	5000V.	2500V.	.95
BE-5210	.001	5000V.	2500V.	1.10
BE-5220	.002	5000V.	2500V.	1.65

SEE "GENERAL INFORMATION" ON PAGE K-7

EL MENCO CAPACITORS

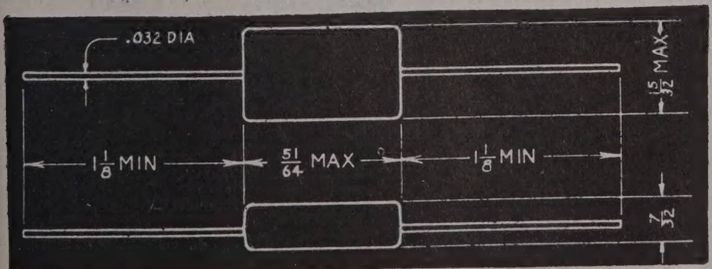
FIXED
MICA
DIELECTRIC
CAPACITORS
•
ALL
IMPREGNATED
AND
JAN-C-5
COLOR
CODED



MADE IN
ACCORDANCE
WITH
AMERICAN
WAR
STANDARDS
TO MEET
ARMY AND
NAVY
JAN-C-5
SPECIFICATIONS

All units are rated at 500 Volts D.C. working and tested at 1000 Volts D.C. except on capacities higher than 6200 mmf. which are rated at 300 Volts D.C. working and 600 Volts D.C. Test. All are tested for accuracy of capacity according to tolerance requested and voltage breakdown.

Type Designation	Cap. mmf.	DC Wkg. Vtge.	COLOR CODE				LIST PRICE	
			Upper Left Dot	Upper Center Dot	Upper Right Dot	Lower Right Dot	Regular Mica	Silvered Mica
CM20-050-	5	500	black	green	black	gold	$0.25	$0.60
CM20-100-	10	500	black	brown	black	black	.25	.50
CM20-120-	12	500	black	brown	red	black	.25	.50
CM20-150-	15	500	black	brown	green	black	.25	.50
CM20-180-	18	500	black	brown	gray	black	.25	.50
CM20-200-	20	500	black	red	black	black	.25	.50
CM20-220-	22	500	black	red	red	black	.25	.50
CM20-240-	24	500	black	red	yellow	black	.25	.50
CM20-270-	27	500	black	red	violet	black	.25	.50
CM20-300	30	500	black	orange	black	black	.25	.50
CM20-330-	33	500	black	orange	orange	black	.20	.50
CM20-360-	36	500	black	orange	blue	black	.20	.50
CM20-390-	39	500	black	orange	white	black	.20	.50
CM20-430-	43	500	black	yellow	orange	black	.20	.50
CM20-470-	47	500	black	yellow	violet	black	.20	.50
CM20-510	51	500	black	green	brown	black	.20	.50
CM20-560-	56	500	black	green	blue	black	.20	.50
CM20-620-	62	500	black	blue	red	black	.20	.50
CM20-680-	68	500	black	blue	gray	black	.20	.50
CM20-750	75	500	black	violet	green	black	.20	.50
CM20-820-	82	500	black	grey	red	black	.20	.50
CM20-910-	91	500	black	white	brown	black	.20	.50
CM20-101-	100	500	black	brown	black	brown	.20	.50
CM20-111-	110	500	black	brown	brown	brown	.20	.50
CM20-121-	120	500	black	brown	red	brown	.20	.50
CM20-131-	130	500	black	brown	orange	brown	.20	.50
CM20-151-	150	500	black	brown	green	brown	.20	.50
CM20-161-	160	500	black	brown	blue	brown	.20	.50
CM20-181-	180	500	black	brown	gray	red	.20	.50
CM20-201-	200	500	black	red	black	brown	.20	.50
CM20-221-	220	500	black	red	red	brown	.20	.50
CM20-241-	240	500	black	red	yellow	brown	.25	.50
CM20-271-	270	500	black	red	violet	brown	.25	.60
CM20-301-	300	500	black	orange	black	brown	.25	.60
CM20-331-	330	500	black	orange	orange	brown	.25	.70
CM20-361-	360	500	black	orange	blue	brown	.25	.70
CM20-391-	390	500	black	orange	white	brown	.25	.70
CM20-431-	430	500	black	yellow	orange	brown	.25	.80
CM20-471-	470	500	black	yellow	violet	brown	.25	.80
CM20-511-	510	500	black	green	brown	brown	.25	.80
CM20-561-	560	500	black	green	blue	brown	.25	.90
CM20-621-	620	500	black	blue	red	brown	.25	.90
CM20-681-	680	500	black	blue	gray	brown	.25	1.00
CM20-751-	750	500	black	violet	green	brown	.25	1.20
CM20-821-	820	500	black	gray	red	brown	.25	1.35
CM20-911-	910	500	black	white	brown	brown	.25	1.35
CM20-102-	1000	500	black	brown	black	red	.30	1.30



STANDARD

tolerance on above listed units are:

Regular MICA .... ±20%

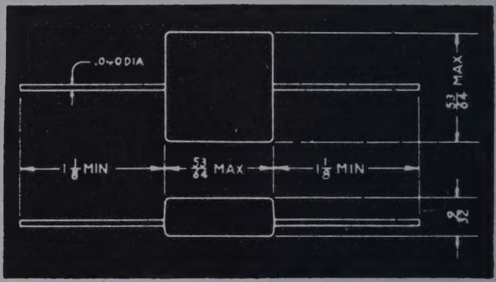
Silvered MICA .... ± 5%

(closest tolerance ±1 MMFD)

EL MENCO CAPACITORS

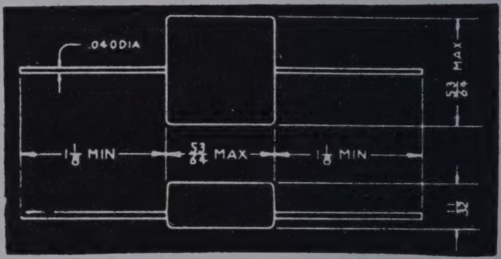
EL-MENCO
MADE IN U.S.A.

CM30



Type Designation	Cap. mmf.	DC Wkg. Vtge.	COLOR CODE Upper Left Dot	Upper Center Dot	Upper Right Dot	Lower Right Dot	LIST PRICE Regular Mica	Silvered Mica
CM30-102-	1000	500	black	brown	black	red	$0.30	$1.50
CM30-112-	1100	500	black	brown	brown	red	.30	1.50
CM30-122-	1200	500	black	brown	brown	red	.30	1.50
CM30-132-	1300	500	black	brown	orange	red	.30	1.50
CM30-152-	1500	500	black	brown	green	red	.30	1.80
CM30-162-	1600	500	black	brown	blue	red	.40	1.80
CM30-182-	1800	500	black	brown	gray	red	.40	1.80
CM30-202-	2000	500	black	red	black	red	.40	1.80
CM30-222-	2200	500	black	red	red	red	.40	1.80
CM30-242-	2400	500	black	red	yellow	red	.45	2.40
CM30-272-	2700	500	black	red	violet	red	.45	2.40
CM30-302-	3000	500	black	orange	black	red	.50	2.70
CM30-332-	3300	500	black	orange	orange	red	.50	2.70
CM35-362-	3600	500	black	orange	blue	red	.50	2.70
CM35-392-	3900	500	black	orange	white	red	.55	2.85
CM35-432-	4300	500	black	yellow	orange	red	.55	2.85
CM35-472-	4700	500	black	yellow	violet	red	.55	2.85
CM35-512-	5100	500	black	green	brown	red	.60	3.00
CM35-562-	5600	500	black	green	blue	red	.60	3.50
CM35-622-	6200	500	black	blue	red	red	.70	4.00
CM35-682-	6800	300	black	blue	gray	red	.80	4.50
CM35-752-	7500	300	black	violet	green	red	.90	5.00
CM35-822-	8200	300	black	gray	red	red	1.00	5.50
CM35-912-	9100	300	black	white	brown	red	1.00	6.00
CM35-103-	10000	300	black	brown	black	orange	1.15	6.50

CM35

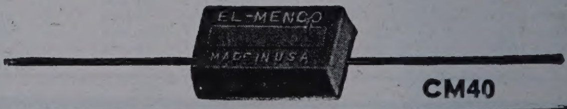


NOTE: CM40 can be supplied in same capacities and prices as CM35 shown above.

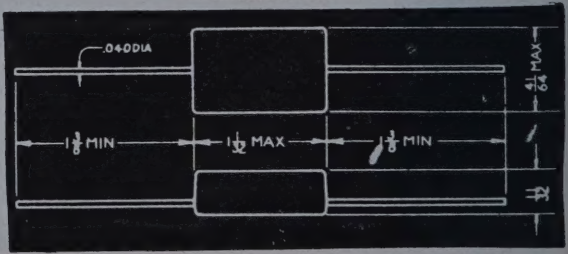
COLOR CODING TABLE

Color	Significant Figure	Decimal Multiplier	Tolerance
Black	0	1	20 per cent (M)
Brown	1	10	
Red	2	100	2 per cent (G)
Orange	3	1000	
Yellow	4		
Green	5		
Blue	6		
Violet	7		
Gray	8		
White	9		
Gold	—		5 per cent (J)
Silver	—		10 per cent (K)

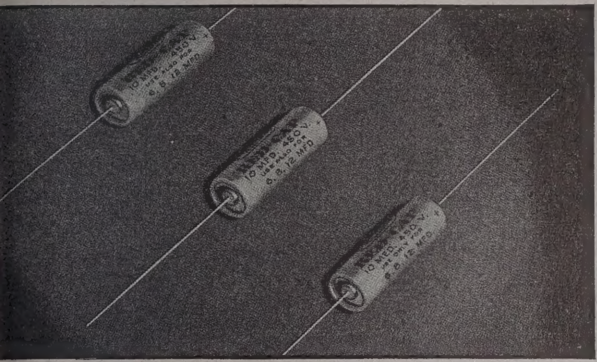
NOTE: For any size not shown in above listings, figure price to the nearest capacity.



CM40



SOLAR ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ DRY ELECTROLYTICS



'RED-CAPS" for SERVICE

DRY ELECTROLYTICS IN PLASTIC TUBES

lew! The most modern development in service-type lry electrolytic capacitors—tiny, handy, attractive in vaterproof, color-coded plastic tubes! Thirteen single alues can be used for forty-one capacity applications. mall inventory. Simplicity!

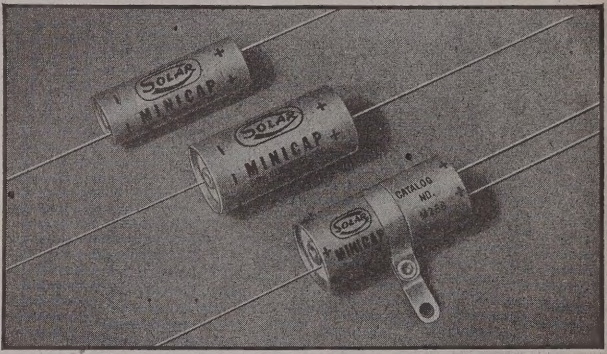
engths are uniform; diameters are minimums, so that ed-Caps group together neatly and literally fit anyhere. Bare leads. Packaged with straps.

lo need for exact duplicates in an endless number of lifferent sizes! Standardize on "Red-Caps for Service!" —for Speed!—for Value!

"RED-CAPS"—In Plastic Tubes

atalog umber	Nominal Cap. Mfd.	Use also for Mfd.	D.C. Voltage Wkg.	D.C. Voltage Surge	Dimensions, Inches* Diam.	Dimensions, Inches* Lgth.
SINGLE CAPACITIES—TWO LEADS						
-020	20	5, 10, 25	50	75	9/16	2 3/16
-210	10	6, 8	150	225	9/16	2 3/16
-215	15	12, 16	150	225	11/16	2 3/16
-220	20	24, 25	150	225	11/16	2 3/16
230	30	35	150	225	11/16	2 3/16
-240	40	45, 50	150	225	13/16	2 3/16
-310	10	6, 8, 12	350	375	11/16	2 3/16
-320	20	15, 16, 24	350	375	13/16	2 13/16
505	5	4, 6	450	525	11/16	2 3/16
510	10	8, 12	450	525	11/16	2 3/16
515	15	16	450	525	13/16	2 3/16
520	20	24, 25	450	525	15/16	2 3/16
610	10	6, 8, 12	525	600	15/16	2 3/16
DUAL CAPACITIES—NEGATIVE COMMON—3 LEADS						
2205	20+20	5+5, 10+10, 25+25	25	40	11/16	2 3/16
1010	10+10	8+8, 12+12	150	225	13/16	2 3/16
2020	20+20	15+15, 16+16	150	225	13/16	2 3/16
3030	30+30	25+25	150	225	15/16	2 3/16
115	10+10	8+8, 12+12	450	525	15/16	2 3/16

± 1/64".



"MINICAP"

METAL ENCASED TUBULAR DRYS

- Compact.
- Hermetically sealed in metal—encased in insulating tubes.
- Dual units negative common; three bare leads, with neutral strap.
- Individually packaged.

"MINICAP" TYPE M

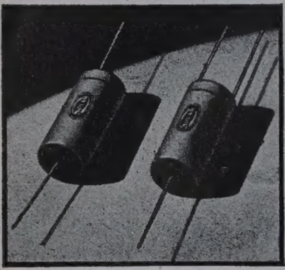
Catalog Number	Capacity Mfd.	D.C. Voltage Working	D.C. Voltage Surge	Size, Inches Diam.	Size, Inches Length
M-010	10	25	40	19/32	1 11/16
M-025	25	25	40	19/32	1 11/16
M-5010	10	50	75	19/32	1 11/16
M-5025	25	50	75	19/32	1 11/16
M-50100	100	50	75	15/16	1 11/16
M-204	4	150	225	19/32	1 11/16
M-208	8	150	225	19/32	1 11/16
M-212	12	150	225	19/32	1 11/16
M-216	16	150	225	11/16	1 11/16
M-220	20	150	225	11/16	1 11/16
M-224	24	150	225	11/16	1 11/16
M-230	30	150	225	11/16	1 11/16
M-240	40	150	225	13/16	1 11/16
M-258	8	250	300	11/16	1 11/16
M-2516	16	250	300	11/16	1 11/16
M-308	8	350	375	11/16	1 11/16
M-316	16	350	375	13/16	1 11/16
M-404	4	450	525	11/16	1 11/16
M-408	8	450	525	13/16	1 11/16
M-412	12	450	525	15/16	1 11/16
M-416	16	450	525	15/16	2 7/32
M-420	20	450	525	1 1/16	2 7/32
M-508	8	525	600	15/16	2 7/32
M-011	10+10	25	40	13/16	1 11/16
M-288	8+8	150	225	13/16	1 11/16
M-816	8+16	150	225	13/16	2 7/32
M-1616	16+16	150	225	13/16	2 7/32
M-2020	20+20	150	225	13/16	2 7/32
M-488	8+8	450	525	15/16	2 7/32

SPECIAL SERVICE CARTONS

Catalog Number	Carton Contains
M-3	Five M-408 Minicaps
M-4	Five M-208 Minicaps
M-5	Five M-216 Minicaps

NOTE: For special high capacity, low voltage units, see page K-18.

HANDY UNIVERSAL REPLACEMENTS



TYPE DT

Type DT units are encased in attractive, varnish-finish, non-absorbent cardboard tubes with 2" bare wire leads one out each end. Dual units have two positive leads at one end, and a common negative at the other.

For mounting straps, refer to "Mounting Hardware" listing at bottom of page K-19.

TYPE DT—Single Capacity Cartridge Type

Catalog Number	Capacity Mfd.	D.C. Wkg. Voltage	Size, Inches Diam.	Length
DT-856	1	450	9/16	2
DT-857	2	450	9/16	2
DT-858	4	450	⅝	2
DT-859A	8	450	⅞	2
DT-859B	12	450	1	2
DT-859C	16	450	⅞	2¾
DT-859D	20	450	⅞	2¾
DT-860A	8	350	¾	2
DT-860B	16	350	⅞	2
DT-866	4	150	9/16	2
DT-868	8	150	9/16	2
DT-868B	12	150	9/16	2
DT-868A	16	150	⅝	2
DT-868C	20	150	¾	2
DT-869D	30	150	¾	2
DT-869E	40	150	⅞	2
DT-869F	50	150	1	2
DT-873	5	50	9/16	2
DT-874	10	50	9/16	2
DT-875	25	50	9/16	2
DT-876	50	50	⅝	2
DT-877	100	50	¾	2
DT-878	5	25	9/16	2
DT-879	10	25	9/16	2
DT-882	25	25	9/16	2
DT-885	10+10	25	⅝	2

SOLAR
8+16 MFD.
450 V.W.
8+BLUE
16+RED
NEG.BLACK

TYPE DH

Popular service-type cardboard tubular units, in single and multiple values, arranged in a really practical manner so that a few types cover virtually every service requirement.

Insulated leads are all brought out one end. Special mounting ears permit upright mounting. For horizontal mounting, a metal strap is packaged separately with each capacitor. Individually packaged.

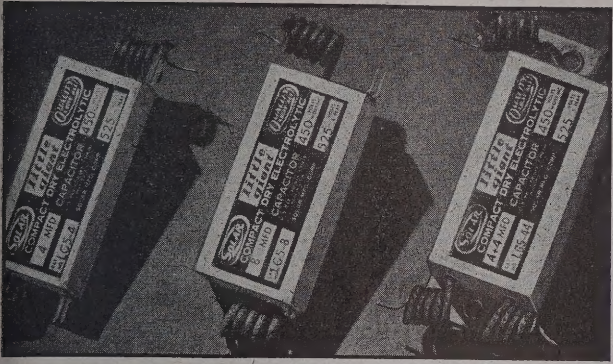
(See listing at right)

TYPE DH—continued.

SERVICE-TYPE DH TUBULAR DRYS

Catalog Number	Nominal Rating Mfd. & W.V.	Use also for Mfd.	Size, Inches Diam.	Lgth.
SINGLE CAPACITY UNITS—2 LEADS				
DH-201	20-150	15, 16	⅞	2½
DH-82	8-250	6, 10	⅞	2½
DH-162	16-250	12, 15, 20	⅞	2½
DH-83	8-350	6, 10	⅞	2½
DH-163	16-350	12, 15, 20	⅞	2½
DH-84	8-450	6, 10	⅞	2½
DH-164	16-450	12, 15	⅞	2⅞
DH-85	8-525	6, 10	⅞	2⅞
DUAL CAPACITIES—COMMON NEGATIVE—3 LEADS				
DH-2020	20+20-25	5+5, 10+10, 25+25	⅞	2½
DH-20201	20+20-150	10+10, 15+15	⅞	2½
DH-30301	30+30-150	24+24, 25+25	1	2⅞
DH-50501	50+50-150	40+40	1	2⅞
DH-882	8+8-250	6+6, 10+10	⅞	2½
DH-883	8+8-350	6+6, 10+10	⅞	2⅞
DH-884	8+8-450	6+6, 10+10	1	2⅞
DUAL CAPACITIES—SEPARATE SECTIONS—4 LEADS				
DHS-20201	20+20-150	10+10, 12+20, 15+15	1	3
DHS-882	8+8-250	6+6, 10+10	1	3
DHS-883	8+8-350	6+6, 10+10	1¼	3
DHS-16163	16+16-350	12+12, 15+15	1⅜	3
DHS-884	8+8-450	4+4, 4+8, 6+6, 10+10	1¼	3
DHS-8164	8+16-450	6+12, 10+15	1⅜	3
DHS-16164	16+16-450	12+12, 15+15	1⅜	3⅞
TRIPLE CAPACITIES—COMMON NEGATIVE—4 LEADS				
DHTN-222	20+20-150 + 20-25	10+16-150 + 10-25 16+16-150 + 20-25 24+16-150 + 20-25	1	2⅞
DHTN-422	40+20-150 + 20-25	30+10-150 + 20-25 30+20-150 + 20-25	1	2⅞
DHTN-3211	30+20+10-150	20+10+10-150 20+20+10-150	1	2⅞
DHTN-112	15+10-350 + 20-25	10+10-150 + 20-25	1⅛	2⅞
DHTN-212	20-400 + 10-350 + 25-25	10+10-350 + 20-25	1⅛	3¼
TRIPLE CAPACITIES—SEPARATE SECTIONS—6 LEADS				
DHTS-882	8+8-350 + 20-25	8+8-250 + 20-25	1⅜	3¼
DHTS-16162	16+16-350 + 20-25	16+16-250 + 20-25 12+12-350 + 20-25 8+16-350 + 20-25	1⅜	3¼
DHTS-88422	8+8-450 + 20-25	4+8-450 + 20-25 6+6-450 + 20-25 10+10-450 + 20-25	1⅜	3¼
DHTS-816422	8+16-450 + 20-25	12+12-450 + 20-25	1⅜	4
DHTS-8883	8+8+8-350	8+8+8-250	1⅜	3¼
DHTS-8884	8+8+8-450		1⅜	4

SOLAR DRY ELECTROLYTICS



little giants

- Handy midget units—in attractive silvered-cardboard boxes, with leads.
- Single values feature "Flex-mount" adjustable flanges. Multiple values have fixed flanges, easily removable. Separate sections and separate leads.

TYPE LG5—525 VOLTS SURGE PEAK

Catalog Number	Capacity Mfd.	D.C. Working Voltage	Dimensions, Inches
LG5-2	2	450	2 7/16 x 3/4 x 1/2
LG5-4	4	450	2 7/16 x 3/4 x 1/2
LG5-8	8	450	2 7/16 x 1 1/8 x 11/16
LG5-10	10	450	2 7/16 x 1 1/8 x 11/16
LG5-12	12	450	2 7/16 x 1 1/8 x 11/16
LG5-16	16	450	2 7/16 x 1 1/8 x 11/16
LG5-44	4+4	450	2 7/16 x 1 3/16 x 1
LG5-48	4+8	450	2 7/16 x 1 3/16 x 1
LG5-88	8+8	450	2 7/16 x 1 3/16 x 1
LG5-816	8+16	450	2 1/2 x 1 5/8 x 1 1/8
LG5-888A	8+8+8	450	2 1/2 x 1 5/8 x 1 1/8

TYPE LG2—250 VOLTS SURGE PEAK

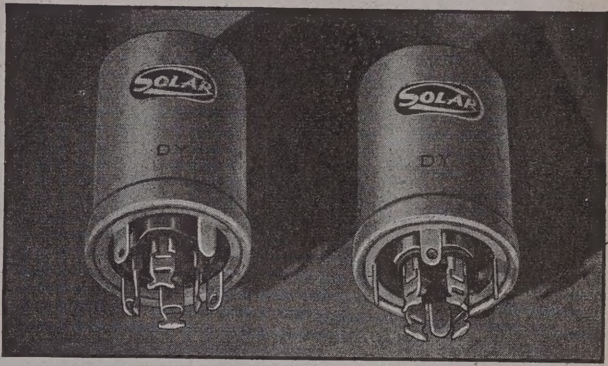
Catalog Number	Capacity Mfd.	D.C. Working Voltage	Dimensions, Inches
LG2-8	8	200	2 7/16 x 3/4 x 1/2
LG2-16	16	200	2 7/16 x 1 1/8 x 11/16
LG2-20	20	200	2 7/16 x 1 1/8 x 11/16
LG2-30	30	200	2 7/16 x 1 1/8 x 11/16
LG2-88	8+8	200	2 7/16 x 1 3/16 x 1
LG2-816	8+16	200	2 7/16 x 1 3/16 x 1
LG2-1616	16+16	200	2 7/16 x 1 3/16 x 1

LARGE SIZE CARDBOARD BOXES

hese are the familiar large dry electrolytics formerly standard or years. Supplied with mounting flanges and leads.

TYPES DAA & DJ—525 VOLTS SURGE

atalog umber	Capacity Mfd.	D.C. Wkg. Voltage	Dimensions, Inches
AA-0602	2	450	2 1/4 x 1 5/16 x 5/8
AA-0604	4	450	4 1/4 x 1 5/16 x 5/8
AA-0608	8	450	4 1/4 x 1 5/16 x 7/8
AA-0616	16	450	4 3/8 x 1 1/2 x 1 7/16
J-0362	8+8	450	4 3/8 x 1 3/8 x 1 1/4



TYPE DY METAL CANS

FOR TWIST-PRONG MOUNTING

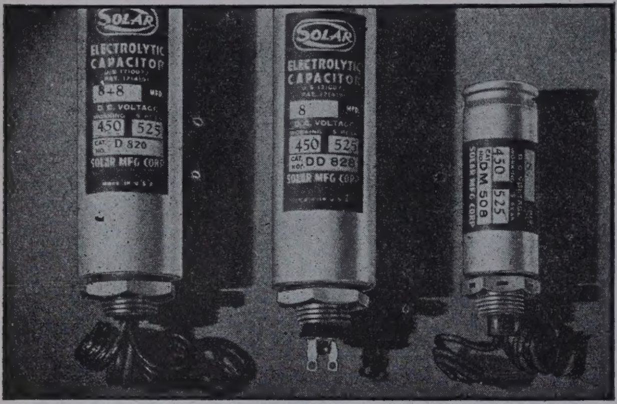
Hermetically sealed, with distinctive Solar base assuring long life, proper venting and rigidity. It is always permissible (if necessary) to use higher capacities than in the original. Terminal codes are stamped on cans.

TYPE DY

Catalog Number	Capacity in Mfd. & D.C. Working Voltage	Can Size, Inches
DY-10	10-450	1x2
DY-20	20-450	1x2½
DY-30	30-450	1x3
DY-40	40-450	1x3⅜
DY-41	10-525	1x3
DY-61	20+20-150	1x2
DY-63	30+30-150	1x2
DY-65	50+50-150	1x3
DY-66	40+20-150	1x2
DY-70	15+15-300	1x2
DY-71	30+30-350-300	1x3
DY-94	10+10-450	1x2½
DY-92	20+20-450	1x3⅜
DY-90	20+20+20-150	1x2
DY-97	40+20+20-150	1x2½
DY-98	40+40+40-150	1x3
DY-99A	40+20+20-250	1x3
DY-105	10+10+10-450	1x3
DY-106	15+15+10-450	1x3
DY-150	20-450 + 15+10-300	1x3⅜
DY-144	15-450 + 20-350 + 20-250	1x3
DY-103	30+30-150 + 20-25	1x2½
DY-103A	30+20-150 + 100-6	1x2
DY-104	50+50-150 + 20-25	1x3
DY-110	50+30-150 + 100-25	1x3
DY-111	15+15-250 + 20-25	1x2
DY-133	15+15-350 + 20-25	1x3
DY-134	30+20-350 + 20-25	1x3⅜
DY-141	10+10-450 + 20-25	1x3
DY-142	15+15-450 + 20-25	1x3
DY-145	30+30-450 + 20-25	1⅜x3
DY-1010	50+50+50-150 + 20-25	1⅜x3
DY-1030	40-350 + 40+20-300 + 20-25	1⅜x3⅜
DY-1020	10+10+10-450 + 20-25	1⅜x2½
DYP-3	Metal Plate for 1" Cans—Grounding	
DYP-4	Bakelite Plate for 1" Cans—Insulating	
DYP-7	Metal Plate for 1⅜" Cans—Grounding	
DYP-8	Bakelite Plate for 1⅜" Cans—Insulating	

PRICES LISTED ON PAGES K-30 and K-31

SOLAR ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ DRY ELECTROLYTICS


SOLAR
ELECTROLYTIC CAPACITOR
8+8 MFD
D.C. VOLTAGE
450 525
D 820
SOLAR MFG CORP
SOLAR
ELECTROLYTIC CAPACITOR
8 MFD
D.C. VOLTAGE
450 525
DD 828
SOLAR MFG CORP
450 525
DM 508
SOLAR MFG CORP

ROUND SCREW BASE CANS

- Dependable capacity and voltage ratings.
- Supplied with mounting nuts.

TYPE D—1⅜" x 4⅜"; Leads; Insulated Can; ¾" Base

Catalog Number	Capacity Mfd.	D.C. Voltage Working	Surge
D-800	8	475	600
D-808	8	450	525
D-813	16	450	525
D-8131	20	450	525
D-8132	30	450	525
D-8133	40	450	525
D-8134	50	450	525
*D-820	8+8	450	525
*D-838	8+8+8	450	525

TYPE DD—1⅜" x 4⅜"; Positive Lug, Can Negative; ¾" Base

Catalog Number	Capacity Mfd.	D.C. Voltage Working	Surge
DD-828	8	450	525

TYPE DM—1" x 2½"; Leads; Insulated Can; ⅝" Base

Catalog Number	Capacity Mfd.	D.C. Voltage Working	Surge
DM-508	8	450	525
**DM-516	16	450	525

TYPE DI—1⅜" x 3¼"; Lugs in Molded Screw Base ⅞" Diam.

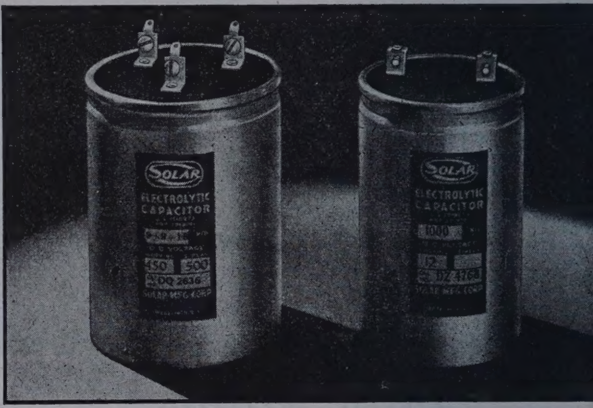
Catalog Number	Capacity Mfd.	D.C. Voltage Working	Surge
DI-854	8	450	525
DI-859	16	450	525
†DI-869	8+8	450	525
†DI-877	8+8+8	450	525

*Separate Sections. **DM-516 can height 3½".
†Common Negative.

TYPE DO—OCTAL TUBE BASE TYPE

PRONGS FIT STANDARD OCTAL SOCKETS

Catalog Number	Capacity Mfd.	D.C. Voltage Working	Surge	Can Size, Inches Diam.	Length
DO-140	40	150	225	1¼	2½
DO-410	10	450	525	1¼	2½
DO-420	20	450	525	1¼	3¼
DO-430	30	450	525	1¼	4
DO-1230	30+30	150	225	1¼	2½
DO-4210	10+10	450	525	1¼	3¼
DO-4310	10+10+10	450	525	1¼	4


SOLAR
ELECTROLYTIC CAPACITOR
450 500
DQ 2636
SOLAR MFG CORP
SOLAR
ELECTROLYTIC CAPACITOR
1000
12
DZ 4768

LARGE ROUND CANS

- Metal can negative; positive connections on top.
- Mounting rings included.

TYPE DP—2½" DIAMETER CANS

Catalog Number	Capacity Mfd.	D.C. Voltage Working	Peak
DP-2508	8+8	450	525
DP-2515	5+15	450	525
DP-2524	8+16	450	525
DP-2538	8+8+8	450	525

TYPE DQ—3" DIAMETER CANS

Catalog Number	Capacity Mfd.	D.C. Voltage Working	Peak
DQ-2608	8+8	450	525
DQ-2624	8+8+8	450	525
DQ-2636	9+9+18	450	525
DQ-2720	9+9+18+18	450	525

HIGH CAPACITY—LOW VOLTAGE DRYS

TYPE DZ—2" DIAMETER x 4" HIGH

Catalog Number	Capacity Mfd.	D.C. Voltage
*DZ-4750	2000	25
*DZ-4752	1500	25
DZ-4753	1000	25
DZ-4765	2000	12
DZ-4766	1500	12
DZ-4768	1000	12

*Diameter 2½".

TYPE DGM—MINICAP CONSTRUCTION†

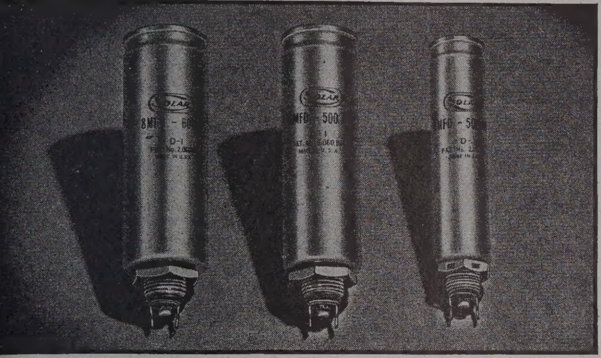
Catalog Number	Capacity Mfd.	D.C. Wkg. Voltage	Size, Inches Diam.	Length
DGM-05	500	6	$\frac{13}{16}$	2$\frac{7}{32}$
DGM-1	1000	6	$\frac{15}{16}$	2$\frac{7}{32}$
DGM-2	2000	6	1$\frac{1}{16}$	3⅛
DGM-9	500	12	$\frac{15}{16}$	2$\frac{7}{32}$
DGM-10	1000	12	1$\frac{1}{16}$	3⅛
DGM-12	2000	12	1$\frac{7}{16}$	3⅛
DGM-20	500	25	1$\frac{1}{16}$	2$\frac{7}{32}$

†For use in electric fence control, low power rectifier circui communications control equipment, etc.

NOTE: For A.C. Motor Starting Dry Electrolytic Capacitors, s special Solar Bulletin Number AC.

SOLAR

WET ELECTROLYTI
PAPER CAPACIT



"Z" TYPE WETS

- Can negative
- Palnut included

TYPE ZD—1⅜" x 4⅜" Can Size; Base ¾" Diam.

Catalog Number	Capacity Mfd.	D.C. Peak Voltage
ZD-8	8	500
ZD-12	12	500
ZD-16	16	500
ZD-20	20	500
ZD-24	24	500
TYPES Z AND ZV—1½" x 4⅜" Can Size; Base ¾" Diam.		
Z-230	30	500
Z-235	35	500
Z-240	40	500
ZV-278	8	600
ZV-286	16	600
TYPES ZK & ZM— 1" Diam.; ZK Can 4⅜", ZM 3⅛" High; Base ⅝" Diam.		
ZK-8	8	500
ZK-16	16	500
ZM-8	8	500

MOUNTING HARDWARE
FOR WET OR DRY ELECTROLYTICS

Cat. No.	Description
H-35	2 fibre washers, 1 ground lug, ⅝" base
H-20	2 fibre washers, 1 ground lug, ¾" base
PN-5-8	Palnut for ⅝" x 18 thread
PN-3-4	Palnut for ¾" x 16 thread
RG-01	Mounting ring for round can 1" diameter
RG-02	Mounting ring for round can 1⅛" diameter
RG-03	Mounting ring for round can 1¼" diameter
RG-1	Mounting ring for round can 1⅜" diameter
RG-2	Mounting ring for round can 1½" diameter
RG-5	Mounting ring for round can 2" diameter
RG-6	Mounting ring for round can 2½" diameter
RG-7	Mounting ring for round can 3" diameter

MOUNTING STRAPS FOR TUBULAR CAPACITORS

Catalog Number	Tube Diam.	List Price	Catalog Number	Tube Diam.
CL-2	⅜"	$.07	CL-10	⅞"
CL-3	7/16"	.07	CL-11	15/16"
CL-4	½"	.07	CL-12	1"
CL-5	9/16"	.07	CL-13	1 1/16"
CL-6	⅝"	.07	CL-14	1⅛"
CL-7	11/16"	.10	CL-15	1¼"
CL-8	¾"	.10	CL-16	1⅜"
CL-9	13/16"	.10	CL-17	1½"

"TOM THUMB" UNCASED

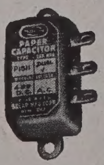
- Compact, flat sections
- Ideal for "potting"
- Varnished wrappers
- 6" insulated leads

For small, hearing-aid types, see page K-21.

1000 V. D.C. WORKING; 2000 V. D.C. TEST—RED LEADS

Catalog Number	Capacity Mfd.	Dimensions, Inches Length	Width	Thickness
TT-11	.1	2⅛	1½	¼
TT-12	.25	3	1 19/32	5/16
TT-13	.5	4¼	1¾	⅜
TT-14	1.0	4¼	2 1/16	19/32
TT-15	2.0	4¼	2 7/16	15/16
600 V. D.C. WORKING; 1200 V. D.C. TEST—BLUE LEADS				
TT-01	.1	2⅛	13/16	¼
TT-025	.25	2⅛	1⅛	9/32
TT-05	.5	2⅛	1 19/32	⅜
TT-1	1.0	2⅛	1 27/32	19/32
TT-2	2.0	2⅛	1 15/16	1 1/32
TT-4	4.0	2⅛	2 5/16	1⅝
400 V. D.C. WORKING; 800 V. D.C. TEST—YELLOW LEADS				
TT-22	.25	2⅛	29/32	5/16
TT-23	.5	2⅛	1½	5/16
TT-24	1.0	2⅛	1 11/16	7/16
TT-25	2.0	2⅛	1¾	13/16
TT-26	4.0	2⅛	2⅛	1 13/32
200 V. D.C. WORKING; 400 V. D.C. TEST—BLACK LEADS				
TT-34	1.0	2⅛	1⅝	⅜
TT-35	2.0	2⅛	1⅝	11/16
TT-36	4.0	2⅛	1¾	1 5/32

DRAWN CAN TYPES



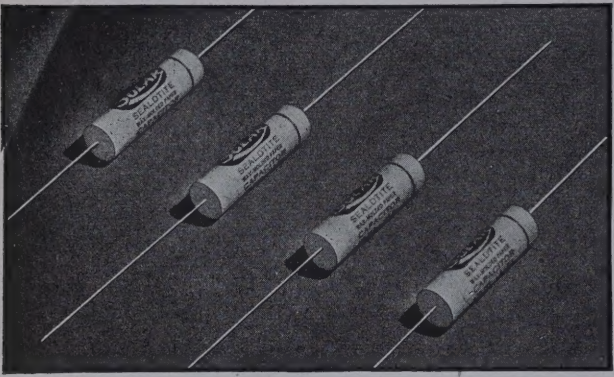
P1511 Dual Type Center Lug Common

For Oil-filled Units, see Page K-22.

TYPE XV—1 13/16" x 1" x ¾"

Catalog Number	Capacity Mfd.	D.C. Working Voltage
P1503	.5	200
P1509	.1	400
P1511	.1+.1	400
P1513	.1	600
TYPE XVIII—2" x 1¾" x ⅞"		
P1821	.5	400
P1801	1.	200
TYPE XIX—2" x 2¼" x 1"		
P1901	2.	200
P1921	1.	400
P1925	.5+.5	400
P1930	.5	600

SOLAR PAPER CAPACITORS



"SEALDTITE" TUBULARS

Moisture-proof Wax-Molded

Exclusively Solar! No other paper tubulars are as modern or reliable. Sealdtite tubulars are actually sealed tight against moisture by a distinctive Solar wax-molding process. This gives a more perfect seal than ever before attained for tubular paper capacitors.

Windings are non-inductive, with full-diameter hot-soldered leads 2¼" in length. Excellent r.f. characteristics.

"Sealdtite" means "Value sealed in—Moisture sealed out!" Reliable in every climate. In cartons of ten.

Catalog Number	Capacity Mfd.	Size, Inches Diam.	Size, Inches Length
1600 V. D.C. WORKING			
VIM-1	.005	7/16	1⅝
VIM-3	.007	7/16	1⅝
VIM-5	.01	½	1⅝
VIM-7	.02	9/16	1⅝
VIM-9	.05	⅝	2⅛
1000 V. D.C. WORKING			
VIM-11	.01	7/16	1⅝
VIM-13	.02	7/16	1⅝
VIM-15	.05	9/16	1⅝
600 V. D.C. WORKING			
S-0203	.00025	⅜	1 3/16
S-0204	.0005	⅜	1 3/16
S-0211	.001	⅜	1 3/16
S-0212	.002	⅜	1 3/16
S-0213	.003	⅜	1 3/16
S-0214	.004	⅜	1 3/16
S-0215	.005	⅜	1 3/16
S-0216	.006	⅜	1 3/16
S-0221	.01	7/16	1 3/16
S-0224	.02	7/16	1⅝
S-0226	.03	7/16	1⅝
S-0227	.04	½	1⅝
S-0230	.05	9/16	1⅝
S-0240	.1	9/16	2⅛
S-0244	.2	11/16	2 3/16

(Listing continued at right)

"SEALDTITE" TUBULARS—continued

Catalog Number	Capacity Mfd.	Size, Inches Diam.	Size, Inches Length
600 V. D.C. WORKING—continued			
S-0257	.25	¾	2 3/16
S-0265	.5	1	2 3/16
S-0268	1.0	1	3
600 V. D.C. WORKING—SPECIAL SHORT UNITS			
S-001	.001	⅜	1
S-002	.002	⅜	1
S-003	.003	⅜	1
S-004	.004	⅜	1
S-005	.005	⅜	1
S-006	.006	⅜	1
400 V. D.C. WORKING			
S-01	.01	⅜	1
S-0219	.01	⅜	1 3/16
S-0223	.02	7/16	1 3/16
S-0228	.05	7/16	1⅝
S-0238	.1	9/16	1⅝
S-0243	.2	⅝	2 3/16
S-0256	.25	11/16	2 3/16
S-0263	.5	⅞	2 3/16
S-0267	1.0	1	2⅝
200 V. D.C. WORKING			
S-0235	.1	½	1⅝
S-0245	.25	9/16	2⅛
S-0261	.5	¾	2 3/16
S-0266	1.0	1	2 3/16

"SEALDTITE" ASSORTMENTS

The Sealdtite assortments S-10 and S-25 are attractive, handy stock cartons of the most popular capacities and voltages in proportions as required for average service work.

SOLAR
GUARANTEED
Sealdtite
TUBULAR PAPER
CAPACITORS

S-10 ASSORTMENT

Consists of the following 10 Sealdtites attractively boxed:

Four .1 mfd. 600 V.W.	Two .02 mfd. 600 V.W.
Two .05 mfd. 600 V.W.	Two .01 mfd. 600 V.W.

List Price ....

Order by Number S-10

S-25 ASSORTMENT

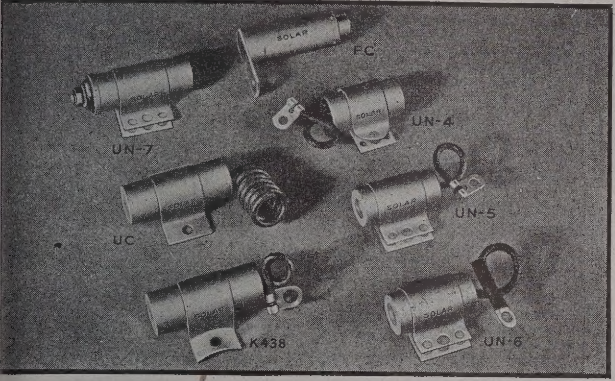
Consists of the following 25 Sealdtites attractively boxed:

Two .5 mfd. 600 V.W.	Five .05 mfd. 600 V.W.
Two .25 mfd. 600 V.W.	Three .02 mfd. 600 V.W.
Nine .1 mfd. 600 V.W.	Four .01 mfd. 600 V.W.

List Price ....

Order by Number S-25

SOLAR INDUSTRIAL PAPER CAPACITORS



AUTO IGNITION CAPACITORS

These are standard replacement ignition condensers for automobile use under even extreme temperature conditions. For mechanical types, see illustration above.

Catalog Number	
UN-4	For design, see illustration
UN-5	" " " "
UN-6	" " " "
UN-7	" " " "
UC	" " " "
K-438	" " " "
FC	" " " "

HEARING-AID CAPACITORS

Modern vacuum tube type Hearing-Aid Devices require very special small capacitors. Several commonly used types are listed.

PAPER CAPACITORS—Miniature "Tom-Thumb" construction with bare wire leads, one out each end. Nominal voltage rating 100 V. D.C.

Catalog Number	Capacity Mfd.	Size, Inches (approx.)
TTH-001	.001	1/8x5/16x13/16
TTH-002	.002	1/8x3/8x13/16
TTH-005	.005	1/8x13/32x13/16
TTH-01	.01	9/64x3/8x13/16
TTH-02	.02	9/64x7/16x13/16
TTH-05	.05	3/16x1/2x15/16
TTH-1	.1	3/16x19/32x1 1/16

MICA CAPACITORS—Mica and foil sections, dipped for protection, with bare wire leads. Nominal voltage rating 100 V. D.C.

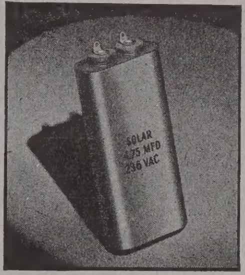
MMA-0002	.0002	5/16 wide x 9/16 long
MMA-0005	.0005	5/16 wide x 9/16 long
MMA-001	.001	5/16 wide x 9/16 long

HIGH TEMPERATURE CAPACITORS

Special small capacitors, built to order, are available for continuous use over temperature ranges up to 250° F. These units are wound with synthetic film insulation, sealed in drawn cans or tubes. Especially designed for use with electric heating appliances, and other "hot-spot" installations.

PHT-1 .5 mfd. 600 v. d.c., 220 v. a.c. Special Hi-Temp Capacitor in 1" diam. x 2⅜" Generator type can with grounded bracket ....

PHT-2 1.0 mfd. 600 v. d.c., 220 v. a.c. Special Hi-Temp Capacitor in drawn can 1¾" x 2⅛" x 1" high; one side grounded to can.



POWER FACTOR CAPACITORS

FOR FLUORESCENT LIGHTING

Oil-impregnated, oil-filled units for standard fluorescent lighting applications. Excellent over-voltage and high-temperature characteristics.

Built to order, including mounting arrangements if specified.

TYPES PFR & PF

Catalog Number	Capacity Mfd.	A.C. Volts	Dimensions, Inches
ROUND CANS			
PFR-3-3	3.	330	2 diam. x 3¼
PFR-3.5-3	3.5	330	2 diam. x 3¾
CANS WITH OVAL SIDES			
PF-4.75-12	4.75	118-236	1x2 1/16 x4½
PF-5.5-12	5.5	118-236	1x2 1/16 x4½
PF-6.5-1	6.5	118	1x2 1/16 x4½
PF-17-12	17.	118-236	2⅛x2 13/16 x5
PF-19.5-12	19.5	118-236	2⅛x2 13/16 x5½
PF-3-3	3.	330	1x2 1/16 x3¼
PF-3.5-3	3.5	330	1x2 1/16 x4½

DOMINO

BAKELITE-MOLDED PAPER CAPACITORS

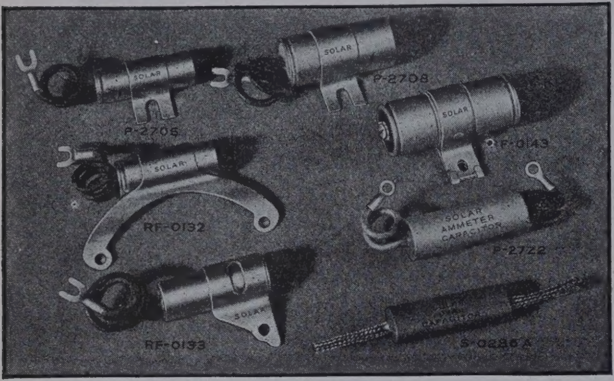
Molded in Bakelite, Domino capacitors meet Underwriters' requirements for units with a non-combustible case for use as a line bypass. Also used in instruments, electric fuel pumps and industrial applications. Dominoes are not designed for use as audio coupling capacitors or on A.C. voltages exceeding 250 volts. Bare leads are 2" long. Ten per carton.

DOMINO TYPE MPW

Catalog Number	Capacity Mfd.	D.C. Working Voltage	Dimensions, Inches
MPW-4103	.002	1000	1 13/32x¾x5/16
MPW-4109	.005	1000	1 13/32x¾x⅜
MPW-4115	.01	1000	1 13/32x¾x⅜
MPW-4129	.005	600	1 5/32x⅝x¼
MPW-4135	.01	600	1 13/32x¾x5/16
MPW-4139	.05	600	2x1x9/16
MPW-4140	.1	600	2x1x9/16
MPW-4145	.05	400	1 13/32x¾x⅜
MPW-4147	.1	400	1 13/32x¾x⅜
MPW-4148	.25	400	2x1x9/16
MPW-4157	.1	200	1 13/32x¾x⅜
MPW-4163	.25	200	2x1x9/16
MPW-4165	.5	200	2x1x9/16
MPC-1	Clamp for rigid mounting of largest Domino size 2x1x9/16		

PRICES LISTED ON PAGES K-30 and K-31

SOLAR PAPER CAPACITORS TRANSMITTING CAPACITORS



AUTO RADIO TYPES

- Built to satisfactorily withstand the difficult heat and vibration conditions encountered in auto usage.

AUTO GENERATOR CAPACITORS

Catalog Number	Capacity Mfd.	Size, Inches Diam.	Length
P-2702	.25	11/16	2
P-2705	.5	11/16	2
P-2708	1.	1	2¼

AUTO AMMETER CAPACITORS

P-2722	.5	¾	2¼
P-2724	1.	15/16	2 3/16

DOME LIGHT FILTER

RF-0143	Cap. + Choke	1	2⅝

SPECIAL FORD CAPACITORS

RF-0132	V-8 to 1936	11/16	2
RF-0133	1937, 1938, 1939	11/16	2

OVAL TUBULAR CAPACITOR

S-0286A	.5—120 V.	7/16 x ¾ x 2 3/16

SPECIAL AUTO VIBRATOR UNIT

S-0286M	Dual .0008	¼ x 11/16 x 1 1/16

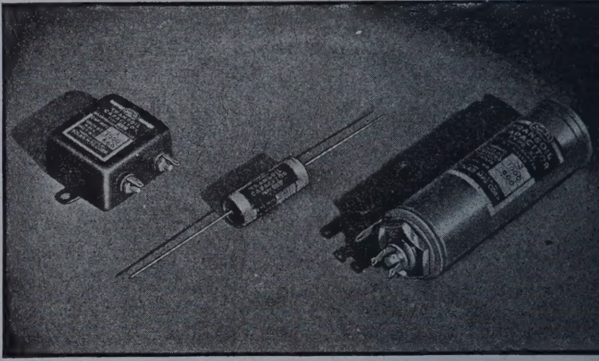
TYPE SDT HI-TEMP TUBULARS

Paper Tubulars Protected with High Temperature Wax for Use in Auto Radio Set "Hot Spots"

Catalog Number	Capacity Mfd.	D.C. Volts Working	Size, Inches Diam.	Length
SDT-0026	.002	600	⅜	1¼
SDT-0056	.005	600	7/16	1¼
SDT-016	.01	600	½	1¼
SDT-026	.02	600	7/16	1⅝
SDT-056	.05	600	9/16	1⅝
SDT-16	.1	600	⅝	2¼
SDT-014	.01	400	7/16	1¼
SDT-024	.02	400	7/16	1⅝

VIBRATOR CAPACITORS

For high voltage paper tubulars, see VIM series on page K20. For special oil tubulars sealed in metal, see Type XTC at right.



TYPES XTC-XDC-XC

These hermetically-sealed units are popular for broac cast use, amateur transmitters, television and qualit amplifiers. Transoil impregnation.

TYPE XTC—TUBULARS

Oil Impregnated—Metal Cases

Catalog Number	Capacity Mfd.	Operating Volts D.C.	Size, Inches Diam.	Length
XTC-16-.0005	.0005	1600	19/32	1¼
XTC-16-.001	.001	1600	19/32	1¼
XTC-16-.002	.002	1600	19/32	1¼
XTC-16-.003	.003	1600	19/32	1¼
XTC-16-.004	.004	1600	19/32	1½
XTC-16-.005	.005	1600	19/32	1½
XTC-16-.007	.007	1600	19/32	1½
XTC-16-.01	.01	1600	19/32	1⅝
XTC-16-.02	.02	1600	11/16	2
XTC-16-.05	.05	1600	13/16	2
XTC-16-.1	.1	1600	1 1/16	2
XTC-10-.01	.01	1000	19/32	1½
XTC-10-.02	.02	1000	19/32	1⅝
XTC-10-.05	.05	1000	11/16	2⅛
XTC-10-.1	.1	1000	11/16	2⅛

For still higher voltage metal-sealed tubulars, see Type XF page K-24.

TYPE XDC—DRAWN SHELL CANS

Oil-Impregnated—Oil-Filled

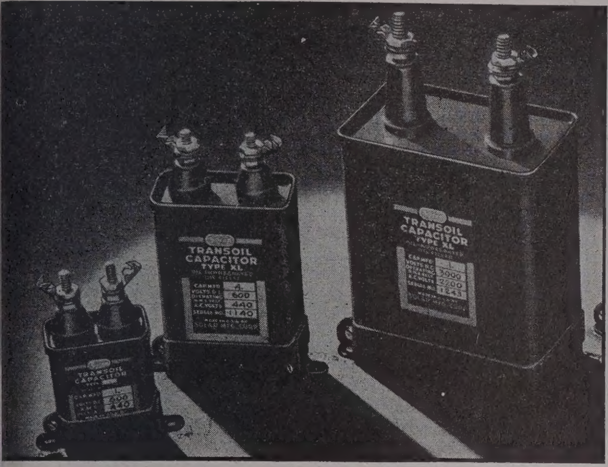
Catalog Number	Cap. Mfd.	Operating Volts D.C.	Can Size, Inches	Mtg. Ctrs. Inches
XDC-6-.1	.1	600	1 13/16 x 1 x ¾	2⅛
XDC-6-.25	.25	600	1 13/16 x 1 x ¾	2⅛
XDC-6-.5	.5	600	1 13/16 x 1 x ¾	2⅛
XDC-10-.1	.1	1000	1 13/16 x 1 x ¾	2⅛
XDC-10-.25	.25	1000	1 13/16 x 1 x ¾	2⅛

TYPE XC—ROUND INVERTED ALUMINUM CANS

¾" Screwbase

Catalog Number	Capacity Mfd.	Operating Volts D.C.	Can Size, Inches Diam.	Height
XC-61	1	600	1½	3
XC-62	2	600	1½	3
XC-64	4	600	1½	4⅜
XC-11	1	1000	1½	3
XC-12	2	1000	1½	4⅜
XC-155	.5	1500	1½	3
XC-151	1	1500	1½	4 3/3

SOLAR ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ TRANSMITTING CAPACITORS



"TRANSOIL" TYPE XLC

Type XLC Transoil Filter Capacitors are oil-impregnated and oil-filled, sealed under vacuum to prevent ionization due to trapped air bubbles. Sections are rigid within sturdy metal containers. Every metal part is rust-proofed. The stand-off insulators are of the wet-process type. Unusual safety margins permit operation without injury even at 10% over-voltage. Separable clamps are arranged for mounting upright or inverted. Every Transoil capacitor is individually tested and guaranteed.

TYPE XLC—Rectangular Cans

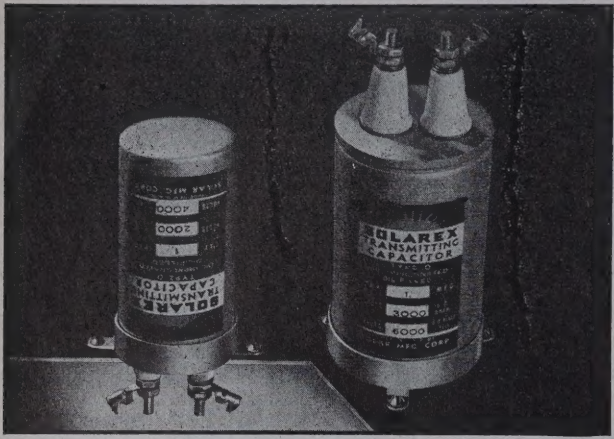
Catalog Number	Capacity Mfd.	Can Size, Inches
600 D.C. OPER. VOLTS—440 R.M.S. RECT. A.C.		
XLC-6-1	1	1¾x1x2⅛
XLC-6-2	2	1¾x1x2⅞
XLC-6-4	4	2½x1³⁄₁₆x3⅝
1000 D.C. OPER. VOLTS—660 R.M.S. RECT. A.C.		
XLC-10-.5	.5	1¾x1x2⅛
XLC-10-1	1	1¾x1x2⅛
XLC-10-2	2	1¾x1x4
XLC-10-4	4	2½x1³⁄₁₆x4¾
XLC-10-5	5	3¾x1¼x3¾
XLC-10-6	6	3¾x1¼x4¾
XLC-10-8	8	3¾x1¼x4¾

(Listing continued at right)

"TRANSOIL" TYPE XLC—continued

Catalog Number	Capacity Mfd.	Can Size, Inches
1500 D.C. OPER. VOLTS—1000 R.M.S. RECT. A.C.		
XLC-15-1	1	1¾x1x4
XLC-15-2	2	2½x1³⁄₁₆x4¾
XLC-15-4	4	3¾x1¼x4¾
2000 D.C. OPER. VOLTS—1500 R.M.S. RECT. A.C.		
XLC-20-.1	.1	1¾x1x2⅛
XLC-20-.25	.25	1¾x1x2⅛
XLC-20-.5	.5	1¾x1x2⅞
XLC-20-1	1	2½x1³⁄₁₆x3⅝
XLC-20-2	2	3¾x1¼x4¾
XLC-20-4	4	3¾x2¼x4¾
XLC-20-5	5	3¾x2¼x4¾
XLC-20-6	6	3¾x3³⁄₁₆x4¾
2500 D.C. OPER. VOLTS—1800 R.M.S. RECT. A.C.		
XLC-25-1	1	3¾x1¼x4¾
XLC-25-2	2	3¾x1¾x4¾
XLC-25-4	4	3¾x3³⁄₁₆x4¾
3000 D.C. OPER. VOLTS—2200 R.M.S. RECT. A.C.		
XLC-30-.1	.1	1¾x1x2⅞
XLC-30-.25	.25	2½x1³⁄₁₆x3⅝
XLC-30-.5	.5	2½x1³⁄₁₆x3⅝
XLC-30-1	1	3¾x2¼x4¾
XLC-30-2	2	3¾x3³⁄₁₆x4¾
XLC-30-4	4	3¾x4⁹⁄₁₆x5
4000 D.C. OPER. VOLTS—2800 R.M.S. RECT. A.C.		
XLC-40-.1	.1	2½x1³⁄₁₆x3⅝
XLC-40-.25	.25	2½x1³⁄₁₆x3⅝
XLC-40-.5	.5	3¾x2¼x4¾
XLC-40-1	1	3¾x2¼x4¾
XLC-40-2	2	3¾x4⁹⁄₁₆x5¼
XLC-40-4	4	3¾x4⁹⁄₁₆x8¼
5000 D.C. OPER. VOLTS—3500 R.M.S. RECT. A.C.		
XLC-50-.1	.1	2½x1³⁄₁₆x4¾
XLC-50-.25	.25	3¾x1½x4¾
XLC-50-.5	.5	3¾x2¼x4¾
XLC-50-1	1	3¾x4⁹⁄₁₆x4¾
XLC-50-2	2	3¾x4⁹⁄₁₆x6¼
6000 D.C. OPER. VOLTS—4400 R.M.S. RECT. A.C.		
XLC-60-.1	.1	3¾x1½x4¾
XLC-60-.25	.25	3¾x3³⁄₁₆x4¾

SOLAR ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ TRANSMITTING CAPACITORS TELEVISION CAPACITORS



"SOLAREX" TYPE X

OIL-IMPREGNATED—OIL-FILLED

Solarex Filter Capacitors are the ideal type for advanced amateurs and general transmitting use where utmost value is a consideration. They are built of paper sections which are oil-impregnated under high vacuum; the carefully insulated assembly is rigidly held in round metal cans, oil-filled and hermetically sealed. Terminals are high quality porcelain stand-off insulators. Mounting is accomplished by detachable rings and the units may be used either upright or inverted. Each capacitor is individually tested and fully guaranteed.

600 D.C. or 440 R.M.S. Rect. A.C. W.V.—1200 Volts D.C. Test

Catalog Number	Capacity Mfd.	Dimensions, Inches Diameter	Can Height
X-062	2	2	2⅜
X-064	4	2	3⅝

1000 D.C. or 660 R.M.S. Rect. A.C. W. V.—2000 Volts D.C. Test

Catalog Number	Capacity Mfd.	Diameter	Can Height
X-11	1	2	1⅞
X-12	2	2	2⅝
X-14	4	2	4⅛

1500 D.C. or 1000 R.M.S. Rect. A.C. W.V.—3000 Volts D.C. Test

Catalog Number	Capacity Mfd.	Diameter	Can Height
X-011	1	2	2⅝
X-012	2	2	3⅝
X-014	4	2½	4⅜

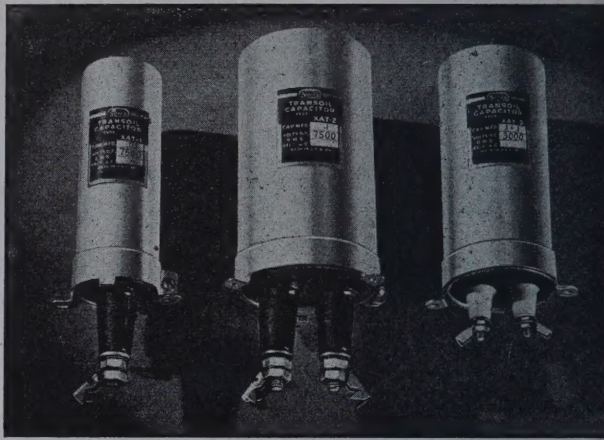
2000 D.C. or 1500 R.M.S. Rect. A.C. W.V.—4000 Volts D.C. Test

Catalog Number	Capacity Mfd.	Diameter	Can Height
X-21	1	2	3⅜
X-22	2	2½	3⅝
X-24	4	3	4¼

3000 D.C. or 2200 R.M.S. Rect. A.C. W.V.—6000 Volts D.C. Test

Catalog Number	Capacity Mfd.	Diameter	Can Height
X-31	1	2½	4⅝
X-32	2	3	4¼

Other types available on special quantity order.



HIGH VOLTAGE TYPES

FOR TELEVISION SERVICE

Built to special television specifications with adequat safety margins for the rigid requirements of television circuits. Oil-impregnated, oil-filled, in hermetically sealed cans with wet-process stand-off insulator and detachable mounting rings.

TYPE XAT—1

Single Section; Grounded Can; Single Insulator

Catalog Number	Capacity Mfd.	D.C. Volts Operating	Size, Inches Diam.	Length
*XAT-1-01	.1	3000	1½	3
*XAT-1-025	.25	3000	2	2¾
XAT-1-71	.01	7500	1½	3½
XAT-1-12	.02	7500	1½	4½
XAT-1-75	.05	7500	2	4½

TYPE XAT—2

Single Section. Insulated from Can; Two Insulators

Catalog Number	Capacity Mfd.	D.C. Volts Operating	Diam.	Length
XAT-2-001	1.	2000	2½	4⅛
XAT-2-200	2.	2000	3	4½
*XAT-2-025	.25	3000	2½	2½
XAT-2-05	.5	3000	2½	3⅛
XAT-2-100	1.	3000	3	4½
*XAT-2-13	.03	7500	2½	3⅞
XAT-2-75	.05	7500	2½	4⅛
XAT-2-71	.1	7500	3	4½

HIGH VOLTAGE TUBULARS

OIL-IMPREGNATED—OIL-FILLED—SEALED IN METAL OUTSIDE INSULATING TUBE

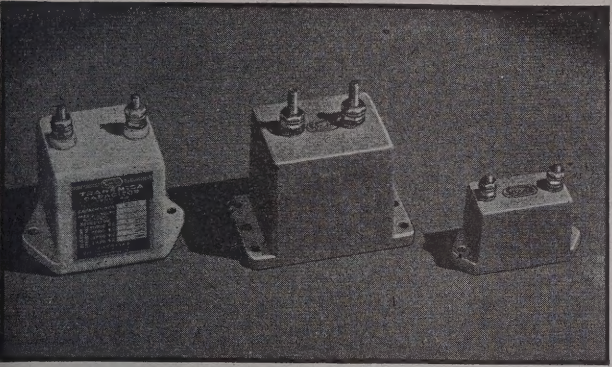
SOLAR
TRANSOIL
TYPE XF

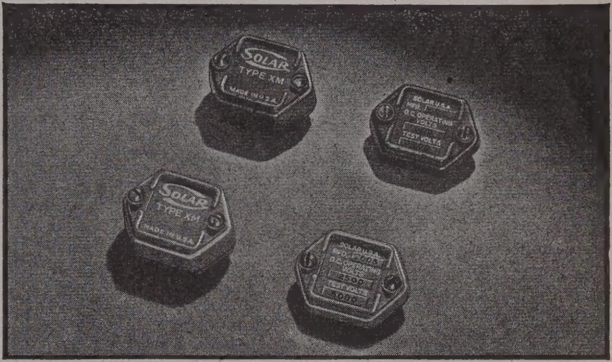
TYPE XF

Catalog Number	Capacity Mfd.	D.C. Volts Operating	Diam.	Length
XF-2-25	.005	2000	15/16	1⅞
XF-2-11	.01	2000	15/16	1⅞
*XF-2-01	.1	2000	1 1/16	4
XF-3-25	.005	3000	1 1/16	2⅛
XF-3-11	.01	3000	1 1/16	2⅛
XF-3-12	.02	3000	1 1/16	2⅝
XF-3-13	.03	3000	1 1/16	2⅞
*XF-3-15	.05	3000	1 1/16	4⅛
XF-3-01	.1	3000	1 1/16	3⅞

*Stock items. Other capacitors built to special order only.

SOLAR TRANSMITTING MICA CAPACITORS





"TRANSMICA" TYPES

- High Q Characteristics
- Vacuum treated

Type XA is customarily employed in amateur equipment for intermittent use only; not designed for continuous duty.

For broadcast station use, and similar heavy-duty purposes, Types XR, XS and XH are highly recommended for complete dependability under the most difficult continuous operation.

TYPE XA—Porcelain Cases

Case Size $3\frac{1}{8}$" x $2\frac{5}{8}$" x $2\frac{5}{16}$" — Mtg. Centers $3\frac{1}{4}$"

Catalog Number	Capacity Mfd.	Maximum D.C. Voltage	Maximum Amperes Operating 15000 Kc.	7500 Kc.	3750 Kc.	1875 Kc.
XA-12-45	.00005	12500	3.5	2.5	1.7	1.
XA-12-21	.001	12500	10.	10.	11.	12.
XA-7-22	.002	7000	9.	9.	10.	10.
XA-7-25	.005	7000	10.	12.	14.	16.
XA-7-11	.01	7000	10.	12.	14.	16.
XA-2-01	.1	2000	12.	14.	16.	18.

TYPE XR—Low-loss Bakelite Cases*

Case Size—2" x $1\frac{1}{2}$" x $\frac{15}{16}$" — Mtg. Centers $2\frac{3}{8}$"

Catalog Number	Capacity Mfd.	Maximum D.C. Voltage	Maximum Amperes Operating 3000 Kc.	1000 Kc.	300 Kc.	100 Kc.
XR-3-31	.0001	3000	2.2	.8	.30	.10
XR-3-35	.0005	3000	4.	2.	1.	.55
XR-3-21	.001	3000	5.	3.	1.6	.80
XR-2-25	.005	2000	8.5	6.5	4.	2.
XR-1-11	.01	1000	10.	8.	5.	2.5
XR-25-01	.1	250	11.	12.	10.	6.

TYPE XS—Standard Bakelite Cases*

Case Size—$2\frac{9}{32}$" x $1\frac{3}{4}$" x $1\frac{1}{4}$" — Mtg. Centers $2\frac{5}{8}$"

XS-5-45	.00005	5000	1.5	.8	.2	.07
XS-5-21	.001	5000	7.	4.	2.	1.
XS-6-22	.002	6000	9.	5.	3.	1.8
XS-2-11	.01	2000	10.	8.	5.	2.
XS-2-13	.03	2000	14.	20.	15.	7.
XS-5-01	.1	500	17.	20.	15.	8.

For low-loss Bakelite case for Type XS, add $1.00 to list.

TYPE XH—Standard Bakelite Cases*

Case Size—3" x $2\frac{7}{8}$" x $2\frac{3}{8}$" — Mtg. Centers $3\frac{9}{16}$"

XH-8-31	.0001	8000	3.25	1.75	1.	.3
XH-8-35	.0005	8000	8.5	6.	3.	1.
XH-8-21	.001	8000	10.	8.5	4.5	1.5
XH-8-22	.002	8000	11.	11.	7.5	2.5
XH-8-11	.01	8000	16.	20.	15.	8.
XH-2-01	.1	2000	18.	25.	22.	12.

For low-loss Bakelite case for Type XH, add to list.

*Standard capacity tolerance for Types XR, XS and XH is ± 5%.

HIGH VOLTAGE MICAS

TYPE XM—BAKELITE-MOLDED

- High Q Characteristics
- Vacuum heat-treated
- Exceptional stability
- Cap'y tolerance ±10%.

Closer tolerances available on special order. Available in either standard or low-loss Bakelite.*

Size A—$1\frac{3}{4}$" x $1\frac{5}{16}$" x $\frac{9}{16}$" thick — $1\frac{1}{4}$" mtg. centers.
Size B—$1\frac{3}{4}$" x $1\frac{5}{16}$" x $\frac{7}{8}$" thick — $1\frac{1}{4}$" mtg. centers

600 V. D.C. OPERATING—1000 V. D.C. TEST

Catalog Number	Capacity Mfd.	Size
XM-6-45	.00005	A
XM-6-31	.0001	A
XM-6-35	.0005	A
XM-6-21	.001	A
XM-6-22	.002	A
XM-6-25	.005	A
XM-6-11	.01	A
XM-6-12	.02	A
XM-6-125	.025	B
XM-6-15	.05	B

1200 V. D.C. OPERATING—2500 V. D.C. TEST

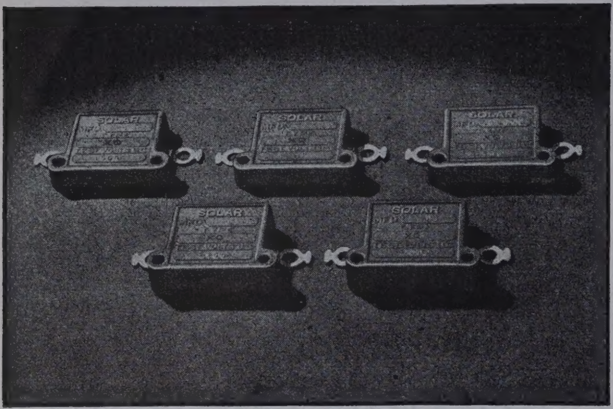
XM-12-45	.00005	A
XM-12-31	.0001	A
XM-12-32	.0002	A
XM-12-35	.0005	A
XM-12-21	.001	A
XM-12-22	.002	A
XM-12-25	.005	A
XM-12-11	.01	A
XM-12-115	.015	B
XM-12-12	.02	B
XM-12-13	.03	B

2500 V. D.C. OPERATING—5000 V. D.C. TEST

XM-25-45	.00005	A
XM-25-31	.0001	A
XM-25-32	.0002	A
XM-25-35	.0005	A
XM-25-21	.001	A
XM-25-22	.002	A
XM-25-25	.005	A
XM-25-11	.01	B
XM-25-115	.015	B

*For low-loss Bakelite case, add $.25 to list.

SOLAR ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ MICA CAPACITORS TRANSMITTING & BROADCAST



HIGH VOLTAGE MICAS

TYPE XQ

Type XQ molded mica capacitors are vacuum-treated for special stability and have high Q characteristics.

Size A—1¼" x 1⅛" x 11/32" thick.
Size B—1¼" x 1⅛" x 7/16" thick.
Insulated mounting centers, A or B—1 5/16".
Terminal mounting centers, A or B—1¾".
Available in either standard or low-loss Bakelite cases.*
Standard capacity tolerance is ± 10%. Closer tolerances available on special order.

600 V. D.C. OPERATING—1200 V. D.C. TEST

Catalog Number	Capacity Mfd.	Size
XQ-.6-45	.00005	A
XQ-.6-31	.0001	A
XQ-.6-35	.0005	A
XQ-.6-21	.001	A
XQ-.6-22	.002	A
XQ-.6-25	.005	A
XQ-.6-11	.01	A
XQ-.6-12	.02	B
XQ-.6-125	.025	B
XQ-.6-13	.03	B

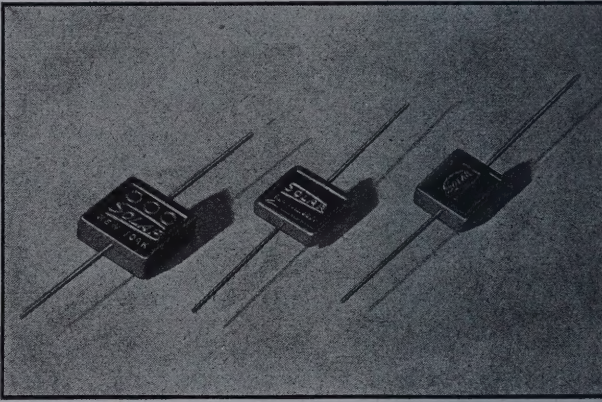
1200 V. D.C. OPERATING—2500 V. D.C. TEST

Catalog Number	Capacity Mfd.	Size
XQ-1.2-45	.00005	A
XQ-1.2-31	.0001	A
XQ-1.2-32	.0002	A
XQ-1.2-325	.00025	A
XQ-1.2-35	.0005	A
XQ-1.2-21	.001	A
XQ-1.2-22	.002	A
XQ-1.2-23	.003	A
XQ-1.2-24	.004	B
XQ-1.2-25	.005	B
XQ-1.2-11	.01	B

2500 V. D.C. OPERATING—5000 V. D.C. TEST

Catalog Number	Capacity Mfd.	Size
XQ-2.5-45	.00005	A
XQ-2.5-31	.0001	A
XQ-2.5-32	.0002	A
XQ-2.5-35	.0005	A
XQ-2.5-21	.001	A
XQ-2.5-22	.002	B
XQ-2.5-23	.003	B
XQ-2.5-25	.005	B

*For low-loss Bakelite case, add $.25 to list.



STANDARD MICAS

Standard molded mica units, 1000 volts D.C. tes
1¼-inch leads.

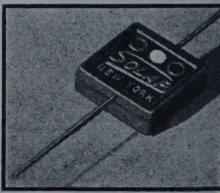
TYPES MW—MT—MO

	MW ¾" sq.	MT ⅝" sq.	MO 7/16"x1 1/16
Capacity Mfd.	Catalog Number	Catalog Number	Catalog Number
.000025		MT-1306	MO-1406
.00003		MT-1307	MO-1407
.00004		MT-1308	MO-1408
.00005	MW-1210	MT-1310	MO-1410
.0001	MW-1216	MT-1316	MO-1416
.0002	MW-1218	MT-1318	MO-1418
.00025	MW-1219	MT-1319	MO-1419
.0003	MW-1220	MT-1320	MO-1420
.0004	MW-1221	MT-1321	
.0005	MW-1222	MT-1322	
.001	MW-1227	MT-1327	
.002	MW-1233		
.003	MW-1235		
.004	MW-1237		
.005	MW-1239		

SILVER-MICA

TYPES MWS—MOS

Silver-mica molded in low-loss Bakelite. Marked with silver dot. List prices are for standard ± 10% tolerance. For ± 5% tolerance, add 10% to prices. For ± 3%, add 30%. For ± 2%, add 50%. 1000 V. D.C. Test.



TYPE MWS—¾" SQ.

Catalog Number	Capacity Mfd.
MWS-100	.0001
MWS-250	.00025
MWS-500	.0005
MWS-700	.0007
MWS-1000	.001
MWS-1500	.0015
MWS-2000	.002
MWS-2500	.0025
MWS-3000	.003
MWS-4000	.004
MWS-5000	.005

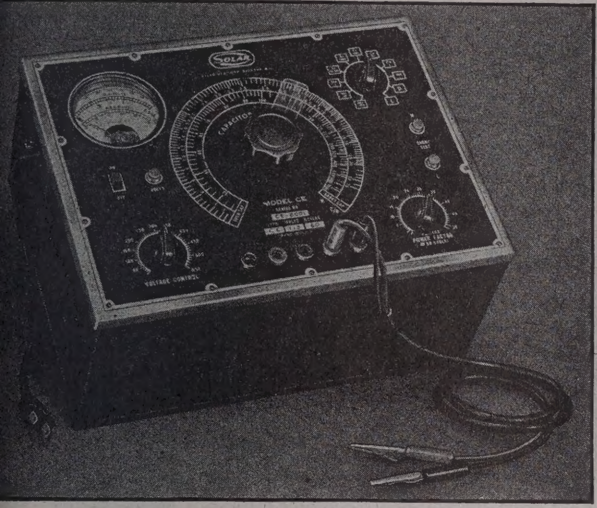
TYPE MOS—7/16" x 1 1/16"

Catalog Number	Capacity Mfd.
MOS-5	.000005
MOS-10	.00001
MOS-20	.00002
MOS-30	.00003
MOS-40	.00004
MOS-50	.00005
MOS-70	.00007
MOS-100	.0001
MOS-150	.00015
MOS-200	.0002
MOS-250	.00025

PRICES LISTED ON PAGES K-30 and K-31

SOLAR

CAPACITOR ANALYZERS



MODEL CE EXAM-ETER

ives the whole condenser story at a glance! The only apacitor analyzer on the market having all these eatures—including Quick-Check dynamic testing.

QUICK-CHECK DYNAMIC TEST: For Shorts, Opens, High R.F. Impedance, Intermittents. Tests can be made without the bother of removing capacitors from the receiver. Most defectives will be quickly located this way. The few exceptions can be readily checked upon removal from chassis.

CAPACITY BRIDGE: Measures from 10 mmf. to 2000 mfd.

RESISTANCE BRIDGE: Measures resistance from 50 ohms to 7.5 megohms.

MEGOHM METER: Measures insulation resistance directly from 2 to 10,000 megohms.

MILLIAMMETER: Measures leakage to 50 milliamperes at 0-550 V. D.C.

POWER FACTOR: Measures to 50% P.F.

D.C. VACUUM TUBE VOLTMETER: Measures D.C. Voltage 0-600 volts.

A.C. VACUUM TUBE VOLTMETER: Measures A.C. Voltage 0-30 V. A.C.

CONTINUOUSLY VARIABLE D.C. VOLTAGE SUPPLY: Provides 0 to 550 V. D.C.

CONTINUITY CHECKER.

TESTS A.C. MOTOR STARTING CAPACITORS.

TESTS FENCE CONTROL CAPACITORS TO 2000 MFD.

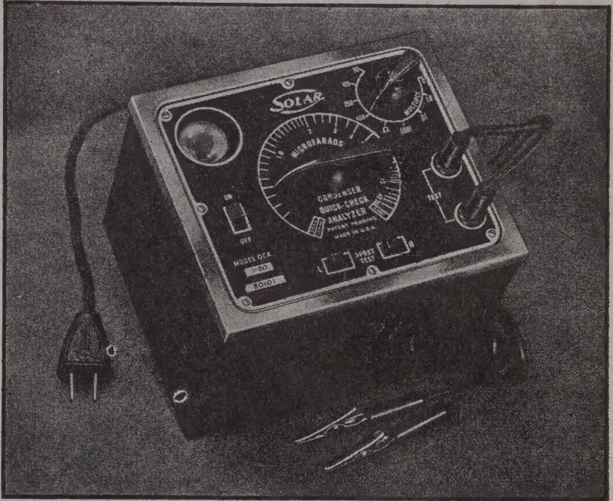
Size, 8½" x 11½" x 5½" high. Weight 12 lbs.

CAPACITOR EXAM-ETERS

atalog umber	
E-1-60	CE Capacitor Exam-eter for 110 v., 60 cycles
E-2-U	CE Capacitor Exam-eter for 110-220 v., 25-60 cycles

SPARE PARTS AND ACCESSORIES

atalog umber	Description
E-6L6	Tube type 6L6
C-J5G	Tube type 6J5GT
C-465	Test leads adjusted for oscillator circuit
E-300	Carrying case for either CE-1-60 or CE-2-U



"QUICK-CHECK" MODEL QCA

Provides all usual tests—plus dynamic checking. A compact capacitor analyzer of unusual value.

- QUICK-CHECK DYNAMIC TEST: For Shorts, Opens, High R.F. Impedance, Intermittents. Tests can be made without the bother of removing capacitors from the receiver. Most defectives will be quickly located this way. The few exceptions can be readily checked upon removal from chassis.
- CAPACITY BRIDGE: Measures from .0002 to 70. mfd.
- POWER FACTOR: Indicates high and unsatisfactory P.F.
- INSULATION RESISTANCE: Tests made at 500 volts D.C. check insulation resistance of paper, mica and trimmers.
- CONTINUITY METER: Tests continuity of circuits, detecting opens in coils, transformers, etc. 5½"x6½"x4¾" high. 6½ lbs.

Catalog Number	
QCA-1-60	Quick-Check Analyzer for 110 v., 60 cycles
QCA-2-U	Quick-Check Analyzer for 110-220 v. 50-60 cycles

MODEL-QC

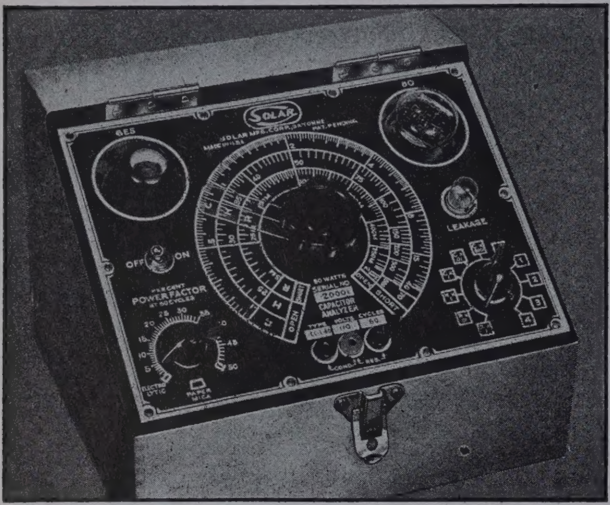
A valuable accessory where an older type capacitor analyzer is already in use. Incorporates the Quick-Check dynamic testing feature for detecting opens, shorts, intermittents, r.f. impedance and power factor—with capacitor in or out of circuit. Capacitance bridge and leakage test not included. Size, 5" x 6" x 4½" high. Weight, 5½ lbs.

QC-1-60	QC Quick-Check for 110 v., 60 cycles
QC-2-U	QC Quick-Check for 110-220 v., 50-60 cycles

SPARE PARTS AND ACCESSORIES

QC-301	Zipper Carrying Case for Model QCA
QC-300	Zipper Carrying Case for Model QC
QC-450	Test bench mounting rim, for Models QCA and QC
QC-465	Test leads for Models QCA, QC
QC-6G5	Tube type 6G5/6U5
QC-J5G	Tube type 6J5GT
QC-Z6G	Tube type 25Z6GT

SOLAR CAPACITOR ANALYZERS



SPECIAL MODEL CC

Plus value! All features of Model CB—plus—

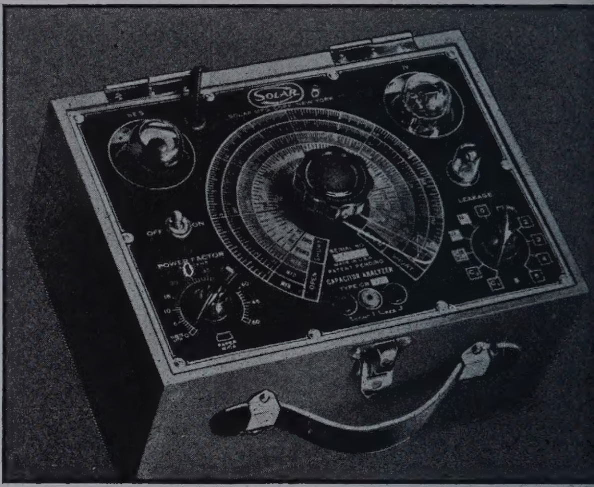
- High Capacity Scale
- Simplified Scales
- High Test Voltage
- Sloping Panel

1. CAPACITY—measures capacity of electrolytic, paper, mica and air condensers including Motor Starting Condensers. Range .00001 to 800 mfd.
2. POWER FACTOR—measures power factor of any standard electrolytic condenser, directly on a scale, in percentage. These measurements include those of A.C. Electrolytics.
3. RESISTANCE—measures resistance directly in ohms. A long scale covering two ranges 50 to 2,000,000 ohms.
4. INSULATION—measures insulation resistance of condensers and insulation. Tests are made at voltages up to 600 volts D.C. provided by built-in power supply.
5. DETECTS DEFECTIVE CONDENSERS—directly indicates leaky, shorted, wrong capacity units, and "intermittents." Test voltages to 600 D.C. are available.
6. IS A USEFUL CONTINUITY METER—for any circuits.
7. COLOR-CODED SCALES—three unusually legible scales are provided, the outer (red) for capacity measurements to 70 mfd.; the center (black) for A.C. electrolytic capacities to 800 mfd.; the inner (blue) for resistance.
8. SIMPLIFIED READING—the use of the open scales is quick and fool-proof, in connection with the multipliers marked on switch settings.
9. CATHODE-RAY TUBE BALANCING—the magic 6E5 tube gives sensitive visual balance "quick as a wink."
10. SELF-CONTAINED—COMPACT—PORTABLE—beautiful sloping panel. Size 9¾" x 8¼" x 6⅝". Weight 8 pounds.

Catalog Number	
CC-1-60	CC Capacitor Analyzer for 110 v., 60 cycles ....
CC-2-U	CC Capacitor Analyzer for 110-220 v., 25-60 cycles ....

SPARE PARTS

Catalog Number	Description
CB-6E5	Tube type 6E5 ....
CC-80	Tube type 80 ....
CB-N	Leakage neon tube ....



STANDARD MODEL CB

First in the field—still the standard! Capacity, pow
factor, leakage, resistance readings directly on th
panel. For simplified measurements, dials are colo
coded to match settings. Portable case with detac
able lid.

FEATURES

1. MEASURES CAPACITY of electrolytic, paper, mica a
air condensers. Range .00001 to 70. mfd.
2. MEASURES POWER FACTOR of any standard electroly
condenser, directly on a scale, in percentage.
3. MEASURES RESISTANCE—directly in ohms, of resistors
all types. Range 50 to 2,000,000 ohms.
4. MEASURES INSULATION RESISTANCE of condensers a
insulation. Tests are made at voltages up to 450 volts D.C
provided by built-in power supply.
5. DETECTS DEFECTIVE CONDENSERS—directly indicat
leaky, shorted, wrong capacity units, and "intermittents
6. IS A USEFUL CONTINUITY METER—for any circuits.
7. COLOR-CODED SCALES mean fool-proof operation.
linear inches of scales mean accuracy.
8. DIRECT READING of all measurements eliminates ext
charts and annoyances.
9. CATHODE-RAY TUBE BALANCING—the magic 6E5 tu
gives sensitive visual balance "quick as a wink."
10. SELF-CONTAINED—COMPACT—PORTABLE. Size 9½"
7⅛" x 6¼". Weight 7 pounds.

Catalog Number	
CB-1-60	CB Capacitor Analyzer for 110 v., 60 cycles ....
CB-2-U	CB Capacitor Analyzer for 110-220 v., 25-60 cycles ....

SPARE PARTS

Catalog Number	Description
CB-6E5	Tube type 6E5 ....
CB-V	Tube type 1-V ....
CB-N	Leakage neon tube ....

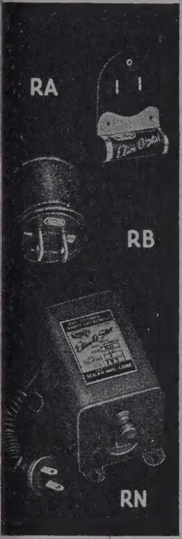
PRICES LISTED ON PAGES K-30 and K-31

SOLAR

RADIO-NOISE SUPPRESSORS TRIMMER CONDENSERS

ELIM-O-STATS

olar maintains a complete interference laboratory here engineers solve radio-noise problems of all types. he Elim-o-stats listed below should take care of all dinary cases of interference either at the appliance at the radio receiver as noted. For exceptional cases rite full details for engineering advice.



dditional types vailable, for special urposes, on quantity order.

JUMBO
AE
AR
AH

TYPE RA—Universal Elim-o-stat

To eliminate interference of low intensity. It slips over the prongs of the line cord plug. ....

TYPE RB—Universal Elim-o-stat

Plugs directly into the electrical outlet and the radio line cord plugs into the Elim-o-stat. Moderate price type for general use. ....

TYPE AD—Appliance Elim-o-stat

Similar to Type RB, but with ground connection binding post. Use with household appliances. ....

TYPE RN—Receiver Elim-o-stat

High efficiency capacitive-inductive type. Sectional band suppression construction with coils designed for both broadcast and short-wave bands.

JUMBO—Universal Elim-o-stat

Capacitive-inductive type for use either at the radio receiver or at the offending appliance. A popular merchandising leader. ....

TYPE AE—Shaver Elim-o-stat

Approved by the largest manufacturers of electric razors because of its superior effectiveness in suppressing radio noise. Capacitive-inductive type.

TYPE AR—Shaver Elim-o-stat

Carefully designed capacitive type which is very convenient to use.

TYPE AH—Appliance Elim-o-stat

Large capacitive-inductive type filter of the sectional band suppression type. Rated at 5 amperes 110 v. A.C., making it useful for larger appliances or with several at once. ....

TYPE AL—Appliance Elim-o-stat

Especially designed for application to oil-burners and similar permanent installations. Sectional band suppression capacitive-inductive construction, in metal cutout box with facilities for connecting BX. Rated at 5 amperes, 110 volts A.C.-D.C.

TYPE AFL—Fluorescent Elim-o-stat

Capacitive-inductive type for fluorescent lighting application. Designed for channel mounting. Rated at 3 amperes, 110 v. A.C.-D.C. Dimensions, $6\frac{1}{2}$" x $2\frac{1}{4}$" x $1\frac{1}{4}$".

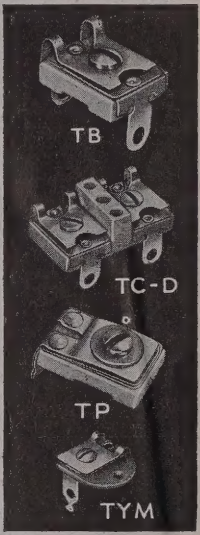
TYPE T TRIMMERS

Solar engineering research and production care are reflected in the high quality and complete dependability of these trimmer capacitors. They are easily adjustable and feature excellent freedom from drift. Both Bakelite and ceramic base types are available.

Where quality is the prime consideration, use Solar trimmers for most satisfactory results.

TYPE TB—Ceramic Base; Body Size $\frac{5}{8}$" x $\frac{3}{4}$"

Catalog Number	Capacity Range Mmf.
TB-30	3-30
TB-90	4-90
TB-180	35-180
TYPE TC-D—Dual Ceramic Size $\frac{5}{8}$" x $\frac{3}{4}$"	
TC-D-30	3-30
TC-D-70	5-70
TC-D-140	50-140
TYPE TP—Ceramic Base; Body Size $\frac{5}{8}$" x $\frac{57}{64}$"	
TP-130	7-130
TP-260	15-260
TP-490	85-490
TP-750	160-750
TP-1140	330-1140
TP-1400	440-1400
TYPE TYM—Flanged Bakelite Base; Size $\frac{25}{32}$" x $\frac{25}{32}$"	
TYM-10	1.1-10
TYM-20	2-20
TYM-30	3-30
TYPE TR—Large Ceramic Base Size $1\frac{1}{16}$" x $1\frac{3}{16}$"	
TR-70	4-70
TR-140	60-140
TR-220	90-220
TR-400	170-400
TR-600	300-600
TR-800	400-800
TR-1200	600-1200
TR-1600	1000-1600
TYPE TSS—Ceramic Base; M't'g Stud $\frac{13}{16}$" x $1\frac{1}{16}$"	
TSS-70	40-70
TSS-140	60-140
TSS-220	90-220
TSS-600	300-600
TYPE TD—Dual Ceramic Base $1\frac{21}{64}$" x $1\frac{21}{64}$"	
TD-70	15-70
TD-220	35-220
TD-600	95-600



Most commonly used values are listed. Other ranges on special quantity orders.

PRICES LISTED ON PAGES K-30 and K-31

SOLAR PRICE LIST

EFFECTIVE SEPTEMBER 26, 1941

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"Red-Caps"

Catalog Number	List Price
R-020	$ .60
R-210	.60
R-215	.70
R-220	.75
R-230	.80
R-240	.85
R-310	.75
R-320	1.05
R-505	.75
R-510	.80
R-515	1.05
R-520	1.20
R-610	1.20
R-2205	1.00
R-1010	1.05
R-2020	1.30
R-3030	1.50
R-115	1.45

"Minicaps"

Catalog Number	List Price
M-010	$ .50
M-025	.60
M-5010	.55
M-5025	.70
M-50100	1.20
M-204	.50
M-208	.55
M-212	.60
M-216	.70
M-220	.75
M-224	.75
M-230	.80
M-240	.85
M-258	.60
M-2516	.90
M-308	.70
M-316	1.00
M-404	.70
M-408	.75
M-412	.90
M-416	1.10
M-420	1.20
M-508	1.10
M-011	.85
M-288	1.00
M-816	1.05
M-1616	1.15
M-2020	1.30
M-488	1.30

Service Cartons

Catalog Number	List Price
M-3	$3.75
M-4	2.75
M-5	3.50

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Type DT

Catalog Number	List Price
DT-856	$ .70
DT-857	.70
DT-858	.70
DT-859A	.75
DT-859B	.90
DT-859C	1.10
DT-859D	1.20
DT-860A	.70
DT-860B	1.00
DT-866	.50
DT-868	.55
DT-868B	.60
DT-868A	.70
DT-868C	.75
DT-869D	.80
DT-869E	.85
DT-869F	1.10
DT-873	.50
DT-874	.55
DT-875	.70
DT-876	.85
DT-877	1.20
DT-878	.50
DT-879	.50
DT-882	.60
DT-885	.85

Type DH

Catalog Number	List Price
DH-201	$ .75
DH-82	.60
DH-162	.90
DH-83	.70
DH-163	1.00
DH-84	.75
DH-164	1.10
DH-85	1.10
DH-2020	1.00
DH-20201	1.30
DH-30301	1.75
DH-50501	2.00
DH-882	1.05
DH-883	1.15
DH-884	1.30
DHS-20201	1.65
DHS-882	1.35
DHS-883	1.50
DHS-16163	2.20
DHS-884	1.65
DHS-8164	2.00
DHS-16164	2.40
DHTN-222	1.75
DHTN-422	1.80
DHTN-3211	1.80
DHTN-112	2.00
DHTN-212	2.25
DHTS-882	1.80
DHTS-16162	2.55
DHTS-88422	2.00
DHTS-816422	2.40
DHTS-8883	2.00
DHTS-8884	2.25

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"Little Giants"

Catalog Number	List Price
LG5-2	$ .80
LG5-4	.90
LG5-8	1.15
LG5-10	1.40
LG5-12	1.60
LG5-16	1.75
LG5-44	1.45
LG5-48	1.65
LG5-88	1.80
LG5-816	2.00
LG5-888A	2.65
LG2-8	1.00
LG2-16	1.30
LG2-20	1.45
LG2-30	1.70
LG2-88	1.50
LG2-816	1.75
LG2-1616	2.00

Types DAA & DJ

Catalog Number	List Price
DAA-0602	$ .80
DAA-0604	.90
DAA-0608	1.15
DAA-0616	1.75
DJ-0362	1.80

Type DY

Catalog Number	List Price
DY-10	$ .90
DY-20	1.35
DY-30	1.65
DY-40	1.95
DY-41	1.20
DY-61	1.20
DY-63	1.35
DY-65	1.65
DY-66	1.35
DY-70	1.20
DY-71	1.80
DY-94	1.45
DY-92	2.00
DY-90	1.45
DY-97	1.60
DY-98	1.90
DY-99A	1.90
DY-105	1.90
DY-106	2.10
DY-150	1.90
DY-144	2.00
DY-103	1.50
DY-103A	1.80
DY-104	1.75
DY-110	2.05
DY-111	1.35
DY-133	1.50
DY-134	1.90
DY-141	1.65
DY-142	1.90
DY-145	2.70
DY-1010	2.30
DY-1030	2.80
DY-1020	2.05
DYP-3	.06
DYP-4	.06
DYP-7	.09
DYP-8	.09

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Type D

Catalog Number	List Price
D-800	$1.80
D-808	1.30
D-813	1.90
D-8131	2.10
D-8132	2.40
D-8133	2.85
D-8134	3.45
D-820	1.95
D-838	2.80

Type DD

Catalog Number	List Price
DD-828	$1.30

Type DM

Catalog Number	List Price
DM-508	$1.30
DM-516	1.90

Type DI

Catalog Number	List Price
DI-854	$1.30
DI-859	1.90
DI-869	1.95
DI-877	2.80

Type DO

Catalog Number	List Price
DO-140	$2.10
DO-410	2.10
DO-420	3.00
DO-430	3.60
DO-1230	2.70
DO-4210	3.30
DO-4310	4.20

Type DP

Catalog Number	List Price
DP-2508	$2.20
DP-2515	2.80
DP-2524	2.85
DP-2538	3.25

Type DQ

Catalog Number	List Price
DQ-2608	$2.20
DQ-2624	3.25
DQ-2636	4.50
DQ-2720	6.30

Type DZ

Catalog Number	List Price
DZ-4750	$14.95
DZ-4752	11.35
DZ-4753	7.90
DZ-4765	7.60
DZ-4766	5.95
DZ-4768	4.30

TYPE DGM

Catalog Number	List Price
DGM-05	$1.50
DGM-1	2.10
DGM-2	3.30
DGM-9	1.80
DGM-10	3.00
DGM-12	3.90
DGM-20	2.70

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Type ZD

Catalog Number	List Price
ZD-8	$1.15
ZD-12	1.40
ZD-16	1.65
ZD-20	1.80
ZD-24	1.95

Types Z and ZV

Catalog Number	List Price
Z-230	$2.05
Z-235	2.10
Z-240	2.30
ZV-278	1.80
ZV-286	2.40

Type ZK & ZM

Catalog Number	List Price
ZK-8	$1.15
ZK-16	1.65
ZM-8	1.15

Hardware

Catalog Number	List Price
H-35	$ .09
H-20	.12
PN-5-8	.06
PN-3-4	.06
RG-01	.09
RG-02	.10
RG-03	.10
RG-1	.10
RG-2	.12
RG-5	.18
RG-6	.18
RG-7	.18

Mounting Straps

Catalog Number	List Price
CL-2	$ .09
CL-3	.09
CL-4	.09
CL-5	.09
CL-6	.09
CL-7	.12
CL-8	.12
CL-9	.12
CL-10	.12
CL-11	.12
CL-12	.15
CL-13	.15
CL-14	.15
CL-15	.15
CL-16	.15
CL-17	.15

"Tom Thumb"

Catalog Number	List Price
TT-11	$ .75
TT-12	.90
TT-13	1.20
TT-14	1.80
TT-15	3.00
TT-01	.50
TT-025	.60
TT-05	.75
TT-1	1.10
TT-2	1.65
TT-4	3.25
TT-22	.50
TT-23	.60
TT-24	.90
TT-25	1.40
TT-26	2.40
TT-34	.75
TT-35	1.15
TT-36	2.05

Type XV

Catalog Number	List Price
P1503	$1.00
P1509	.80
P1511	1.00
P1513	.90

Type XVIII

Catalog Number	List Price
P1821	$1.15
P1801	1.30

Type XIX

Catalog Number	List Price
P1901	$1.80
P1921	1.50
P1925	1.50
P1930	1.45

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"Sealdtite" Tubulars

Catalog Number	List Price
VIM-1	$ .45
VIM-3	.45
VIM-5	.45
VIM-7	.45
VIM-9	.55
VIM-11	.40
VIM-13	.40
VIM-15	.45
S-0203	.20
S-0204	.20
S-0211	.20
S-0212	.20
S-0213	.20
S-0214	.20
S-0215	.20
S-0216	.20
S-0221	.20
S-0224	.20
S-0226	.25
S-0227	.25
S-0230	.25
S-0240	.30
S-0244	.45
S-0257	.45
S-0265	.60
S-0268	1.00
S-001	.20
S-002	.20
S-003	.20
S-004	.20
S-005	.20
S-006	.20
S-01	.25
S-0219	.20
S-0223	.20
S-0228	.20
S-0238	.25
S-0243	.30
S-0256	.30
S-0263	.45
S-0267	.60
S-0235	.25
S-0245	.30
S-0261	.45
S-0266	.60

S-10 Assortment

List Price $2.40

S-25 Assortment

List Price $7.20

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Auto Ignition Types

Catalog Number	List Price
UN-4	$ .50
UN-5	.50
UN-6	.50
UN-7	.75
UC	.50
K-438	.50
FC	.50

Hearing-Aid Types

Catalog Number	List Price
TTH-001	$ .60
TTH-002	.60
TTH-005	.60
TTH-01	.60
TTH-02	.60
TTH-05	.75
TTH-1	.90
MMA-0002	.40
MMA-0005	.45
MMA-001	.50

High Temperature Types

Catalog Number	List Price
PHT-1	$1.80
PHT-2	3.60

Types PFR & PF

Catalog Number	List Price
PFR-3-3	$3.30
PFR-3.5-3	3.60
PF-4.75-12	3.00
PF-5.5-12	3.60
PF-6.5-1	3.25
PF-17-12	6.90
PF-19.5-12	8.40
PF-3-3	3.30
PF-3.5-3	3.60

Federal Excise Taxes, if any apply, are to be added to these prices.

SUBJECT TO CHANGE WITHOUT NOTICE

SOLAR PRICE LIST

EFFECTIVE SEPTEMBER 26, 1941

Domino Type MPW

Catalog Number	List Price
MPW-4103	$ .45
MPW-4109	.45
MPW-4115	.55
MPW-4129	.40
MPW-4135	.45
MPW-4139	.50
MPW-4140	.60
MPW-4145	.45
MPW-4147	.50
MPW-4148	.55
MPW-4157	.45
MPW-4163	.50
MPW-4165	.70
MPC-1	.09

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Auto Radio Types

Catalog Number	List Price
P-2702	$ .50
P-2705	.60
P-2708	.85
P-2722	.55
P-2724	.80
RF-0143	1.00
RF-0132	.75
RF-0133	.60
S-0286A	.55
S-0286M	.60

Type SDT

Catalog Number	List Price
SDT-0026	$ .25
SDT-0056	.25
SDT-016	.25
SDT-026	.25
SDT-056	.30
SDT-16	.40
SDT-014	.25
SDT-024	.25

Type ZTC

Catalog Number	List Price
XTC-16-.0005	$.75
XTC-16-.001	.75
XTC-16-.002	.75
XTC-16-.003	.75
XTC-16-.004	.75
XTC-16-.005	.75
XTC-16-.007	.75
XTC-16-.01	.75
XTC-16-.02	.80
XTC-16-.05	1.00
XTC-16-.1	1.10
XTC-10-.01	.60
XTC-10-.02	.70
XTC-10-.05	.80
XTC-10-.1	1.00

Type XDC

Catalog Number	List Price
XDC-6-.1	$1.75
XDC-6-.25	2.05
XDC-6-.5	2.35
XDC-10-.1	2.20
XDC-10-.25	2.65

Type XC

Catalog Number	List Price
XC-61	$2.70
XC-62	3.30
XC-64	4.50
XC-11	3.00
XC-12	3.90
XC-155	3.60
XC-151	3.90

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Type XLC

Catalog Number	List Price
XLC-6-1	$4.20
XLC-6-2	5.10
XLC-6-4	6.60
XLC-10-.5	3.60
XLC-10-1	4.50
XLC-10-2	6.00
XLC-10-4	7.50
XLC-10-5	9.00
XLC-10-6	9.90
XLC-10-8	10.80
XLC-15-1	5.40
XLC-15-2	7.50
XLC-15-4	10.20
XLC-20-.1	4.80
XLC-20-.25	5.10
XLC-20-.5	5.40
XLC-20-1	6.60
XLC-20-2	7.80
XLC-20-4	10.80
XLC-20-5	12.00
XLC-20-6	14.10
XLC-25-1	9.60
XLC-25-2	15.60
XLC-25-4	21.60
XLC-30-.1	10.20
XLC-30-.25	10.80
XLC-30-.5	12.00
XLC-30-1	14.40
XLC-30-2	18.00
XLC-30-4	26.40
XLC-40-.1	18.00
XLC-40-.25	19.20
XLC-40-.5	21.60
XLC-40-1	26.40
XLC-40-2	33.60
XLC-40-4	48.00
XLC-50-.1	20.40
XLC-50-.25	21.60
XLC-50-.5	24.00
XLC-50-1	30.00
XLC-50-2	38.40
XLC-60-.1	24.00
XLC-60-.25	26.40

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Type X

Catalog Number	List Price
X-062	$3.90
X-064	5.40
X-11	3.30
X-12	4.50
X-14	5.70
X-011	4.20
X-012	5.70
X-014	7.50
X-21	5.40
X-22	6.00
X-24	8.40
X-31	10.80
X-32	13.20

Type XAT-1

Catalog Number	List Price
XAT-1-01	$6.00
XAT-1-025	7.80
XAT-1-71	7.20
XAT-1-12	7.80
XAT-1-75	9.60

Type XAT-2

Catalog Number	List Price
XAT-2-100	$7.20
XAT-2-200	10.20
XAT-2-025	9.00
XAT-2-05	10.80
XAT-2-100	14.40
XAT-2-13	10.80
XAT-2-75	12.00
XAT-2-71	15.00

Type XF

Catalog Number	List Price
XF-2-25	$1.80
XF-2-11	1.95
XF-2-01	2.10
XF-3-25	2.00
XF-3-11	2.05
XF-3-12	2.10
XF-3-13	2.20
XF-3-15	2.30
XF-3-01	3.00

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Type XA

Catalog Number	List Price
XA-12-45	$6.60
XA-12-21	6.60
XA-7-22	7.80
XA-7-25	9.60
XA-7-11	12.60
XA-2-01	13.20

Type XR

Catalog Number	List Price
XR-3-31	$10.80
XR-3-35	10.80
XR-3-21	10.80
XR-2-25	10.80
XR-1-11	10.80
XR-25-01	12.00

Type XS*

Catalog Number	List Price
XS-5-45	$14.40
XS-5-21	14.40
XS-6-22	14.40
XS-2-11	14.40
XS-2-13	15.60
XS-5-01	16.20

*For low-loss Bakelite case for Type XS, add $1.20 to list.

Type XH*

Catalog Number	List Price
XH-8-31	$21.60
XH-8-35	30.00
XH-8-21	33.60
XH-8-22	33.60
XH-8-11	48.00
XH-2-01	42.00

*For low-loss Bakelite case for Type XH, add $1.80 to list.

Type XM*

Catalog Number	List Price
XM-6-45	$ .75
XM-6-31	.75
XM-6-35	.75
XM-6-21	.75
XM-6-22	.80
XM-6-25	1.05
XM-6-11	1.70
XM-6-12	2.25
XM-6-125	2.80
XM-6-15	4.65
XM-12-45	.85
XM-12-31	.85
XM-12-32	.85
XM-12-35	.85
XM-12-21	1.10
XM-12-22	1.65
XM-12-25	2.10
XM-12-11	3.40
XM-12-115	4.05
XM-12-12	4.75
XM-12-13	5.55
XM-25-45	1.10
XM-25-31	1.10
XM-25-32	1.30
XM-25-35	1.50
XM-25-21	1.80
XM-25-22	2.70
XM-25-25	4.10
XM-25-11	4.95
XM-25-115	5.40

*For low-loss Bakelite case for Type XM, add $ .30 to list.

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Type XQ*

Catalog Number	List Price
XQ-.6-45	$ .60
XQ-.6-31	.60
XQ-.6-35	.60
XQ-.6-21	.60
XQ-.6-22	.70
XQ-.6-25	.85
XQ-.6-11	1.40
XQ-.6-12	1.90
XQ-.6-125	2.30
XQ-.6-13	2.55
XQ-1.2-45	.85
XQ-1.2-31	.85
XQ-1.2-32	.85
XQ-1.2-325	.85
XQ-1.2-35	.85
XQ-1.2-21	1.10
XQ-1.2-22	1.65
XQ-1.2-23	1.90
XQ-1.2-24	1.90
XQ-1.2-25	2.10
XQ-1.2-11	3.40
XQ-2.5-45	1.10
XQ-2.5-31	1.10
XQ-2.5-32	1.30
XQ-2.5-35	1.50
XQ-2.5-21	1.80
XQ-2.5-22	2.70
XQ-2.5-23	3.30
XQ-2.5-25	4.20

*For low-loss Bakelite case for Type XQ, add $ .30 to list.

Type MW

Catalog Number	List Price
MW-1210	$ .20
MW-1216	.20
MW-1218	.20
MW-1219	.25
MW-1220	.25
MW-1221	.25
MW-1222	.25
MW-1227	.30
MW-1233	.40
MW-1235	.50
MW-1237	.55
MW-1239	.60

Type MT

Catalog Number	List Price
MT-1306	$ .25
MT-1307	.25
MT-1308	.20
MT-1310	.20
MT-1316	.20
MT-1318	.20
MT-1319	.25
MT-1320	.25
MT-1321	.25
MT-1322	.25
MT-1327	.30

Type MO

Catalog Number	List Price
MO-1406	$ .25
MO-1407	.25
MO-1408	.20
MO-1410	.20
MO-1416	.20
MO-1418	.20
MO-1419	.25
MO-1420	.25

Silver-Mica

List prices are standard ± 10% tolerance. For ± 5% tolerance, add 10% to prices. For ± 3%, add 30%. For ± 2%, add 50%.

Type MWS

Catalog Number	List Price
MWS-100	$ .60
MWS-250	.60
MWS-500	.90
MWS-700	1.20
MWS-1000	1.50
MWS-1500	1.80
MWS-2000	1.80
MWS-2500	2.40
MWS-3000	2.70
MWS-4000	2.85
MWS-5000	3.00

Type MOS

Catalog Number	List Price
MOS-5	$ .60
MOS-10	.50
MOS-20	.50
MOS-30	.50
MOS-40	.50
MOS-50	.50
MOS-70	.50
MOS-100	.50
MOS-150	.60
MOS-200	.60
MOS-250	.60

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Model CE

Catalog Number	Dealer Net Cost—Complete with Tubes
CE-1-60	$44.90*
CE-2-U	49.90*
CE-6L6	$1.60
QC-J5G	.90
QC-465	.75
CE-300	2.40

Model QCA

Catalog Number	Dealer Net Cost—Complete with Tubes
QCA-1-60	$24.90*
QCA-2-U	29.60*

Model QC

Catalog Number	Dealer Net Cost—Complete with Tubes
QC-1-60	$14.90*
QC-2-U	18.75*
QC-301	1.65
QC-300	1.50
QC-450	.60
QC-465	.75
QC-6G5	1.10
QC-J5G	.90
QC-Z6G	.90

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Model CC

Catalog Number	Dealer Net Cost—Complete with Tubes
CC-1-60	$32.50*
CC-2-U	37.50*
CB-6E5	1.45
CC-80	.90
CB-N	.75

Model CB

Catalog Number	Dealer Net Cost—Complete with Tubes
CB-1-60	26.00*
CB-2-U	30.75*
CB-6E5	1.45
CB-V	.90
CB-N	.75

*Prices $1.00 higher on the West Coast, or west of Denver.

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Elim-O-Stats

Catalog Number	List Price
Type RA	$ .60
Type RB	.90
Type AD	1.50
Type Rn	7.20
Jumbo	6.00
Type AE	3.60
Type AR	1.20
Type AH	9.00
Type AL	9.60
Type AFL	6.60

Trimmers Type TB

Catalog Number	List Price
TB-30	$ .40
TB-90	.45
TB-180	.50

Type TC-D

Catalog Number	List Price
TC-D-30	$ .75
TC-D-70	.80
TC-D-140	.90

Type TP

Catalog Number	List Price
TP-130	$ .40
TP-260	.45
TP-490	.60
TP-750	.70
TP-1140	.85
TP-1400	1.00

Type TYM

Catalog Number	List Price
TYM-10	$ .50
TYM-20	.45
TYM-30	.45

Type TR

Catalog Number	List Price
TR-70	$ .60
TR-140	.75
TR-220	.85
TR-400	1.00
TR-600	1.10
TR-800	1.20
TR-1200	1.45
TR-1600	1.80

Type TSS

Catalog Number	List Price
TSS-70	$ .75
TSS-140	.85
TSS-220	1.00
TSS-600	1.20

Type TD

Catalog Number	List Price
TD-70	$ .80
TD-220	1.00
TD-600	1.20

Federal Excise Taxes, if any apply, are to be added to these prices.

SUBJECT TO CHANGE WITHOUT NOTICE

†Net

PYRANOL* CAPACITORS

For Amateur Radio Equipment

A COMPLETE LINE

Outstanding Characteristics

Continuous operation at 10 per cent above rating

Long life, for low cost per service-year

Small size—means easy portability

Upright or inverted mounting

Round or rectangular cases

Hermetically sealed for permanence

G-E Pyranol capacitors for d-c communications equipment are filled and treated with Pyranol, a non-inflammable dielectric developed and patented by General Electric. Pyranol has extraordinary dielectric qualities, and its use makes possible an unusually small and compact unit for all transmitter-capacitor ratings. Compare the size with that of a capacitor of conventional design.

The cases are hermetically sealed, assuring permanence of the characteristics of the capacitors, as contamination from air and moisture is impossible. Long life and ability to withstand temperatures as high as 75 C make these capacitors outstanding in their field.

The high quality of General Electric Pyranol transmitter capacitors is the result not only of extensive research into the design and manufacture of capacitors, but also of wide application experience. Thousands of units are in service in broadcasting stations, in commercial transmitters on shipboard, on airplanes—all over the world. Materials closely controlled as to quality, manufacturing processes under careful engineering and laboratory supervision, years of tested application experience—all these combine to give the amateur an unexcelled capacitor—the same high-quality capacitor as those used in the largest General Electric transmitters.

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*Trade-mark reg. U. S. Pat. Off.

RECTANGULAR-CASE DESIGNS

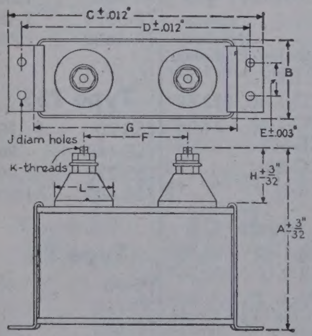
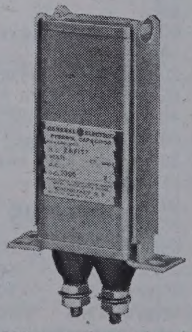


Fig. 1—Base-mounting assembly. See table on opposite page for specifications



1000-volt, 2-microfarad G-E Pyranol transmitter capacitor for inverted mounting

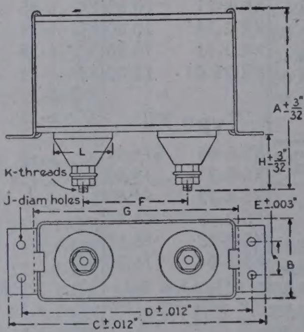
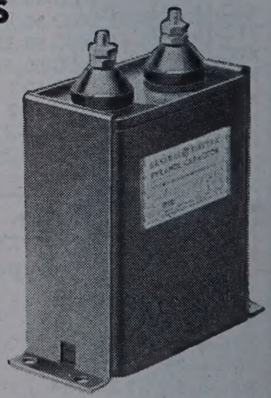


Fig. 2—Inverted-mounting assembly. See table on opposite page for specifications



2000-volt, 5-microfarad G-E Pyranol transmitter capacitor for base mounting

PYRANOL CAPACITORS

RECTANGULAR-CASE DESIGNS

With Mounting Bracket for Base Mounting or Inverted Mounting

PRICES AND SPECIFICATIONS

Mu f	Base Mtg. Fig. 1 Cat. No.	Inverted Mtg. Fig. 2 Cat. No.	List Price	Dimensions in Inches											Net Weight in Lb.
				A	B	C	D	E	F	G	H	J	K	L	
600 VOLTS D-C															
1	23F1	26F172	$3.75	3 9/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4	3/8
2	23F2	26F167	4.60	4 1/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4	3/8
4	23F4	26F106	5.90	4 17/32	1 3/16+1/32	3 1/2	3 1/8	13/32	1 1/8	2 5/8	1 3/32	.213	#12-28	3/4	5/8
10	23F8	26F105	9.75	5 7/8	1 1/4+3/32	4 3/4	4 3/8	13/32	2	3 7/8	1 3/32	.213	#12-28	3/4	1 1/2
1000 VOLTS D-C															
1	23F10	26F156	$4.00	3 17/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4	7/16
2	23F11	26F157	5.40	5 5/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4	1/2
4	23F13	26F93	6.75	5 7/8	1 3/16+1/32	3 1/2	3 1/8	13/32	1 1/8	2 5/8	1 3/32	.213	#12-28	3/4	1
5	23F14	26F176	8.10	5 5/32	1 1/4+3	4 3/4	4 3/8	13/32	2	3 7/8	1 3/32	.213	#12-28	3/4	1 1/4
10	23F17	26F95	10.80	5 7/8	1 3/4+3/32	4 3/4	4 3/8	5/8	2	3 7/8	1 3/32	.213	#12-28	3/4	2
15	23F19	26F180	12.90	5 13/32	3 3/16+1/8	5	4 1/2	1 15/16	2	3 7/8	1 3/32	9/32	#12-28	1 1/8	3 1/8
1500 VOLTS D-C															
1	23F20	26F181	$4.85	5 5/32	1+1/32	2 3/4	2 3/8	13/32	13/16	1 7/8	1 3/32	.213	#12-28	3/4	1/2
2	23F21	26F182	6.75	5 13/32	1 3/32+1/32	3 1/2	3 1/8	13/32	1 1/8	2 5/8	1 3/32	.213	#12-28	3/4	7/8
4	23F23	26F184	9.20	5 7/8	1 1/4+3/32	4 3/4	4 3/8	13/32	2	3 7/8	1 3/32	.213	#12-28	3/4	1 1/2
5	23F24	26F185	9.75	5 13/32	1 3/4+3/32	4 3/4	4 3/8	7/8	2	3 7/8	1 3/32	.213	#12-28	3/4	1 7/8
10	23F27	26F187	16.20	5 7/8	3 3/16+1/8	5	4 1/2	1 13/32	2	3 7/8	1 3/32	9/32	#12-28	1 1/8	3 1/2
15	23F29	26F189	19.40	5 7/8	4 9/16+1/8	5	4 1/2	3 7/8	2	3 7/8	1 3/32	9/32	#12-28	1 1/8	5 1/2
2000 VOLTS D-C															
1	23F30	26F190	$5.95	4 17/32	1 3/16+1/32	3 1/2	3 1/8	13/32	1 1/8	2 5/8	1 3/32	.213	#12-28	3/4	3/4
2	23F31	26F191	7.00	5 5/32	1 1/4+3/32	4 3/4	4 3/8	13/32	2	3 7/8	1 3/32	.213	#12-28	3/4	1 5/8
4	23F33	26F193	9.75	5 3/32	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 3/32	9/32	#12-28	3/4	2 1/8
5	23F34	26F194	10.80	5 7/8	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 3/32	9/32	#12-28	3/4	2 1/2
10	23F37	26F197	20.00	5 7/8	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 3/32	9/32	#12-28	1 1/8	5
12	23F38	26F198	21.60	6 7/8	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 3/32	9/32	#12-28	1 1/8	6
2500 VOLTS D-C															
1	23F39	26F199	$8.60	4 13/32	1 3/4+3/32	4 3/4	4 3/8	5/8	2	3 7/8	1 3/32	.213	#12-28	3/4	1 1/3
2	23F40	26F200	14.00	5 7/8	1 3/4+3/32	4 3/4	4 3/8	5/8	2	3 7/8	1 3/32	.213	#12-28	3/4	2
4	23F41	26F201	19.40	5 5/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 3/32	9/32	#12-28	1 1/8	4
3000 VOLTS D-C															
1	23F42	26F202	$12.90	5 27/32	2 1/2+3/32	5	4 1/2	1 1/4	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8	2 3/4
2	23F43	26F203	16.20	6 3/32	3 3/16+1/8	5	4 1/2	1 15/16	2	3 7/8	1 35/32	9/32	5/16-18	1 3/8	3 1/2
4	23F44	26F204	23.80	6 27/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8	5 1/2
4000 VOLTS D-C															
.5	23F45	26F205	$19.50	5 27/32	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8	2 5/8
1	23F46	26F206	23.80	6 27/32	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8	3 1/2
2	23F47	26F207	30.00	6 27/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8	5 1/2
5000 VOLTS D-C															
.5	23F48	26F208	$21.60	6 3/32	2 1/4+3/32	5	4 1/2	1 1/4	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8	2 3/4
1	23F49	26F209	27.00	6 3/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8	4 3/4
2	23F50	26F210	34.50	7 27/32	4 9/16+1/8	5	4 1/2	3 3/8	2	3 7/8	1 25/32	9/32	5/16-18	1 3/8	6 3/4

Price and other data subject to change without notice.

Prices are in accordance with OPA regulations applicable to General Electric Company. Dealers or distributors, however, should not use any list price suggested if it exceeds their ceiling price.

The rectangular-case-design Pyranol transmitter capacitors listed above and illustrated on opposite page, are hermetically solder-sealed and provided with ceramic insulators and mounting bracket as shown. The mounting bracket is rigidly attached to the capacitor, before shipment, by mechanical means and cannot loosen. All ratings are furnished with a durable silver-gray finish.

These capacitors may be operated continuously at voltage up to 10 per cent above the rated value.

PYRANOL CAPACITORS

CYLINDRICAL-CASE AND SMALL-RECTANGULAR-CASE DESIGNS

PRICES AND SPECIFICATIONS

CYLINDRICAL-CASE DESIGNS

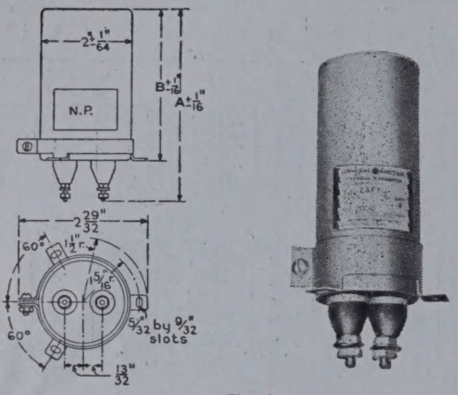


Fig. 3

G-E cylindrical-case Pyranol capacitors are hermetically solder-sealed and provided with ceramic insulators and an adjustable clamp-type mounting bracket, as illustrated. They may be mounted in any position. All ratings are furnished with a durable silver-gray lacquer finish.

These capacitors are built to the same high standard of quality that has gained such great favor with radio amateurs for the rectangular-case Pyranol design. They may be operated continuously at voltages up to 10 per cent above the rated value.

Mu f	Cat. No.	List Price	Dimensions in Inches		Net Weight in Oz
			A	B	
600 VOLTS D-C					
2	23F60	$3.50	3 1/16	1 11/16	10
3	23F61	4.00	3 7/16	2 1/16	10
4	23F62	4.85	4 9/16	3 3/16	14
1000 VOLTS D-C					
1	23F63	$2.95	3 1/16	1 11/16	10
2	23F64	4.00	3 7/16	2 1/16	10
3	23F65	4.60	4 9/16	3 3/16	14
4	23F66	5.10	4 15/16	3 9/16	16
1500 VOLTS D-C					
0.5	23F67	$3.25	3 1/16	1 11/16	10
1.0	23F68	3.75	3 1/16	1 11/16	10
2.0	23F69	5.10	4 5/16	2 15/16	14
2000 VOLTS D-C					
1.0	23F70	$4.85	3 13/16	2 7/16	14
2.0	23F71	5.40	4 15/16	3 9/16	16

SMALL-RECTANGULAR-CASE DESIGNS

RATED 500 VOLTS D-C — 1 MU F

1000 VOLTS D-C — 0.01, 0.05, 0.10, 0.25, AND 0.5 MU F

These G-E Pyranol capacitors, of very small size, are hermetically sealed in metal containers and are furnished with a gray lacquer finish. The capacitors may be operated continuously at voltages up to 10 per cent above the rated value.

Rating		Cat. No.	List Price	Net Wt in Oz	Dimensions in Inches See Diagram	
Volts D-c	Mu f				B	A
500	1.0	23F154	$3.25	3	2 25/32	1 15/16
1000	0.01	23F155	2.15	2	2 5/32	1 5/16
1000	0.05	23F156	2.40	2	2 5/32	1 5/16
1000	0.1	23F157	2.70	2	2 5/32	1 5/16
1000	0.25	23F158	2.95	2 1/2	2 13/32	1 9/16
1000	0.5	23F159	3.25	3	2 25/32	1 15/16

Prices and Other Data Subject to Change without Notice.

Prices are in accordance with OPA regulations applicable to General Electric Company. Dealers or distributors should not, however, use any list price suggested if it exceeds their ceiling prce.

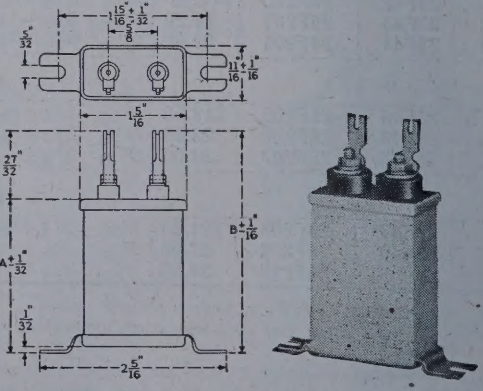


Fig. 4

FOR AMATEUR RADIO EQUIPMENT

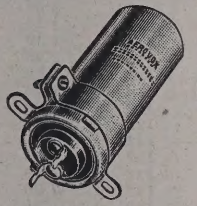
AEROVOX Electrolytic Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

UPRIGHT OR INVERTED MOUNTING CAPACITORS

TYPE E

These units are widely used in highest-quality radio, communications, electronic and similar types of apparatus. Type E capacitors are hermetically-sealed. Ring-type clamp provides rigid and convenient method of mounting unit inverted or upright, beneath, on, or through mounting surface. Available with single or multiple elements. Single unit has two terminals, dual unit has three terminals, and triple unit has four terminals. Cathode connection is made through one terminal in cover.



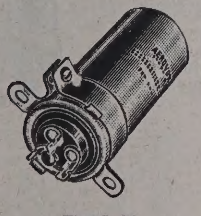
TYPE E
Single Section
(2 terminals)

600v Surge Pk.—475v D.C. Work.
Type E475—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.50	$0.90

525v Surge Pk.—450v D.C. Work.
Type E450—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.05	$0.63
8	1⅜ x 2¼	1.30	.78
10	1⅜ x 2¼	1.50	.90
12	1⅜ x 2¼	1.70	1.02
16	1⅜ x 2¼	1.90	1.14
20	1⅜ x 2¼	2.10	1.26
30	1⅜ x 2¼	2.25	1.35
40	1⅜ x 2¾	2.85	1.71
80	1⅜ x 4¼	4.85	2.91



TYPE E
Dual Element
(3 terminals)

Type E450—Dual Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 2¼	$1.95	$1.17
8-16	1⅜ x 2¼	2.40	1.44
10-10	1⅜ x 2¼	2.35	1.41
12-12	1⅜ x 2¼	2.40	1.44
16-16	1⅜ x 2¾	2.80	1.68
20-20	1⅜ x 2¾	3.30	1.98

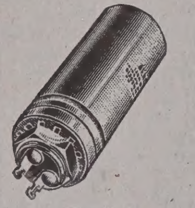
Type E450—Triple Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8-8	1⅜ x 2¼	$2.90	$1.74
10-10-10	1⅜ x 2¼	3.20	1.92

INSULATED SCREW-MOUNTING CAPACITORS

TYPE G

These capacitors are highest quality hermetically-sealed aluminum can units, used in all quality electronic, radio and communications equipment. Constructed with threaded cover, provided with lock washer and hexagonal nut to provide simple means of mounting capacitor through hole in mounting surface. The capacitor may also be insulated from chassis by use of an insulating washer. Terminals are molded in cover. Single element units have two terminals; dual-element units have three terminals. Cathode connection is made through one terminal in the cover.



TYPE G
Single Element
(2 terminals)

600v Surge Pk.—475v D.C. Work.
Type G475—Single Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.50	$0.90
8	1⅜ x 2¼	1.80	1.08

525v Surge Pk.—450v D.C. Work.
Type G450—Single Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.05	$0.63
8	1⅜ x 2¼	1.30	.78
10	1⅜ x 2¼	1.50	.90
12	1⅜ x 2¼	1.70	1.02
16	1⅜ x 2¼	1.90	1.14
20	1⅜ x 2¼	2.10	1.26
30	1⅜ x 2¼	2.25	1.35
40	1⅜ x 2¾	2.85	1.71
80	1⅜ x 4¼	4.85	2.91

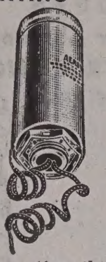
TYPE G
Dual Element
(3 terminals)

Type G450—Dual Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 2¼	$1.95	$1.17
8-16	1⅜ x 2¼	2.40	1.44
10-10	1⅜ x 2¼	2.35	1.41
12-12	1⅜ x 2¼	2.40	1.44
16-16	1⅜ x 2¾	2.80	1.68
20-20	1⅜ x 2¾	3.30	1.98

SCREW-MOUNTING WIRE-LEAD CAPACITORS

TYPE GL



These inverted mounting, aluminum can capacitors are made in single, double and triple section units with two separate color-coded leads 3½" long brought out from each section. The threaded neck and palnut provide a simple means of mounting the unit through a hole in the mounting surface.

800v Surge Pk.—600v D.C. Work.
Type GL600—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 4	$2.25	$1.35
8	1½ x 4	3.15	1.89
15	1½ x 4½	4.60	2.76

600v Surge Pk.—475v D.C. Work.
Type GL475—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8	1⅜ x 3	$1.80	$1.08
12	1⅜ x 3	2.50	1.50
16	1⅜ x 3	2.80	1.68

Type GL475—Double Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 4	$2.90	$1.74

525v Surge Pk.—450v D.C. Work.
Type GL450—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 3	$1.05	$0.63
8	1⅜ x 3	1.30	.78
10	1⅜ x 3	1.50	.90
12	1⅜ x 3	1.70	1.02
16	1⅜ x 3	1.90	1.14
20	1⅜ x 3	2.10	1.26
30	1⅜ x 3	2.70	1.62
40	1⅜ x 3	2.85	1.71
80	1⅜ x 4	4.85	2.91

Type GL450—Double Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 4	$1.95	$1.17
8-16	1⅜ x 4	2.40	1.44
10-10	1⅜ x 4	2.35	1.41
12-12	1⅜ x 4	2.40	1.44
16-16	1½ x 4	2.80	1.68
20-20	1½ x 4	3.30	1.98

Type GL450—Triple Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8-8	1½ x 4	$2.90	$1.74
10-10-10	1½ x 4	3.20	1.92

MIDGET Screw-Mounting WIRE-LEAD CAPACITORS

TYPE GLS

Colored polarity-indicating flexible leads. Inverted screw-mounting. Two 3½-inch leads for each section. 1-inch diameter can and short length make for more compact assemblies, while retaining generous proportions for hard service. Otherwise, similar to Type GL.

525v Surge Pk.—450v D.C. Work.
Type GLS450—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1 x 2$\frac{3}{16}$	$1.05	$0.63
8	1 x 2$\frac{11}{16}$	1.30	.78
12	1 x 3¼	1.70	1.02
16	1 x 3¼	1.90	1.14

Type GLS450—Double Section

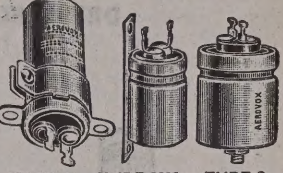
Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 3	$1.95	$1.17

300v Surge Pk.—250v D.C. Work.
Type GLS250—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1 x 2$\frac{3}{16}$	$0.90	$0.54
8	1 x 2$\frac{11}{16}$	1.15	.69
12	1 x 2$\frac{11}{16}$	1.40	.84
16	1 x 3¼	1.65	.99

ULTRA-COMPACT BYPASS CAPACITORS

TYPES E, MM, S



TYPE E	TYPE MM	TYPE S
Ring-Mounting	Strap-Mounting	Stud-Mounting

A choice of three aluminum can capacitors especially suitable as bypass or filter units. All are 1" in diameter, hermetically-sealed, easily mounted. Units have two terminals; one positive, and other is cathode connection—both made through cover.

Type E has ring-type clamp providing rigid and convenient method of mounting unit inverted or upright, beneath, on, or through mounting surface. Type MM has an aluminum mounting strap riveted to side of can. Strap has hole in each end permitting unit to be securely mounted parallel to mounting surface. Type S has screw-stud and nut providing simple means of mounting through a small hole in the mounting surface. This mounting is integral with the bottom of the container.

Type E50—Single Section
Type MM50—Single Section
Type S50—Single Section
75v Surge Pk.—50v D.C. Work.

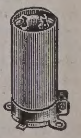
Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
10	1 x 1¾	$0.90	$0.54
25	1 x 1¾	1.10	.66

Type E25—Single Section
Type MM25—Single Section
Type S25—Single Section
40v Surge Pk.—25v D.C. Work.

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
10	1 x 1¾	$0.75	$0.45
25	1 x 1¾	.90	.54

HIGH-CAPACITY LOW-VOLTAGE CAPACITORS

TYPE HCLV



These high-capacity low-voltage units are used in electric fence control and other applications requiring very high capacitance values at very low voltages. These capacitors are supplied with an outer insulating tube and mounting ring. Sizes given below are over the outside tube.

Type HCLV12—12v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
500	1$\frac{7}{16}$ x 3	$1.80	$1.08
1000	1$\frac{7}{16}$ x 3½	3.00	1.80
2000	1$\frac{7}{16}$ x 4½	3.90	2.34
4000	2$\frac{1}{16}$ x 4½	6.60	3.96

Type HCLV18—18v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
500	1$\frac{7}{16}$ x 3	$2.40	$1.44
1000	1$\frac{7}{16}$ x 4½	3.60	2.16
2000	1$\frac{7}{16}$ x 4½	4.80	2.88
4000	2$\frac{9}{16}$ x 4½	10.80	6.48

Type HCLV25—25v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
500	1$\frac{7}{16}$ x 3	$2.70	$1.62
1000	1$\frac{7}{16}$ x 4½	4.20	2.52
2000	1$\frac{7}{16}$ x 4½	7.20	4.32
4000	2$\frac{9}{16}$ x 4½	15.00	9.00

Type HCLV50—50v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1000	2$\frac{1}{16}$ x 4½	$7.20	$4.32
2000	2$\frac{9}{16}$ x 4½	15.00	9.00

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

AEROVOX Electrolytic Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

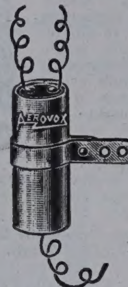
DANDEES

Minature Tubular Aluminum Can DRY ELECTROLYTICS

TYPE PRS

AEROVOX
DANDEE

SINGLE-SECTION
Two Leads



DUAL-ELEMENT
Three Leads

Tightly sealed aluminum-can dry electrolytics for use where money- and space-saving considerations are paramount. Smallest proportions consistent with full-rated capacity and voltage, operating under normal-duty conditions.

Excellent for crowded assemblies. DANDEES are favorites for use in midget sets, AC-DC sets, auto-radios, etc. Also many servicing jobs where low cost is important.

Electrically insulated with special waxed paper jacket. Ends spun over can rim, eliminating possibility of shorts if leads are bent close to unit. Generous length tinned wire leads. DANDEES are thoroughly aged, ready for immediate use. Each unit is thoroughly tested. Individually packed with guarantee slip. Dual-element units have three leads (common negative).

SINGLE-SECTION UNITS

Type PRS 450
525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	13/16 x 1¾	$0.70	$0.42
8	15/16 x 1¾	.75	.45
10	15/16 x 1¾	.85	.51
12	15/16 x 1¾	.90	.54
16	15/16 x 2¼	1.10	.66
20	1 1/16 x 2¼	1.20	.72
30	1 1/16 x 2¼	1.45	.87
40	*1 1/16 x 3¼	1.75	1.05

Type PRS 350
400v Surge Pk.—350v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	11/16 x 1¾	$0.60	$0.36
8	13/16 x 1¾	.70	.42
12	13/16 x 2¼	.85	.51
16	13/16 x 2¼	1.00	.60
24	15/16 x 2¼	1.10	.66

Type PRS 250
300v Surge Pk.—250v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	11/16 x 1¾	$0.55	$0.33
8	11/16 x 1¾	.60	.36
12	13/16 x 1¾	.80	.48
16	13/16 x 2¼	.90	.54
20	13/16 x 2¼	1.00	.60

Type PRS 150
200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	11/16 x 1¾	$0.50	$0.30
8	11/16 x 1¾	.55	.33
12	11/16 x 1¾	.60	.36
16	11/16 x 1¾	.70	.42
20	13/16 x 1¾	.75	.45
24	13/16 x 1¾	.75	.45
30	13/16 x 1¾	.80	.48
40	13/16 x 2¼	.85	.51
50	15/16 x 2¼	1.10	.66

Type PRS 50
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	11/16 x 1¾	$0.55	$0.33
25	11/16 x 1¾	.70	.42
50	13/16 x 1¾	1.00	.60
100	15/16 x 1¾	1.20	.72

Type PRS 25
40v Surge Pk.—25v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	11/16 x 1½	$0.50	$0.30
25	11/16 x 1¾	.60	.36
50	13/16 x 1¾	.75	.45
100	15/16 x 1¾	1.10	.66

*Two leads at one end. Supplied with mounting bracket.

DUAL-ELEMENT UNITS

Type PRS 450
525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1 1/16 x 2¼	$1.30	$0.78
8-16	1 1/16 x 2¼	1.60	.96
10-10	1 1/16 x 2¼	1.40	.84

Type PRS 200
250v Surge Pk.—200v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1 1/16 x 1¾	$1.15	$0.69
8-16	1 1/16 x 1¾	1.20	.72
16-16	1 1/16 x 1¾	1.40	.84

Type PRS 150
200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1 1/16 x 1¾	$1.00	$0.60
8-16	1 1/16 x 1¾	1.05	.63
20-20	1 1/16 x 1¾	1.30	.78
40-40	1 1/16 x 2¼	1.50	.90

Type PRS 50
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	1 1/16 x 1¾	$1.00	$0.60

Type PRS 25
40v. Surge Pk.—25v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	1 1/16 x 1¾	$0.85	$0.51

TWIST-PRONG BASE CAPACITORS

TYPE AF

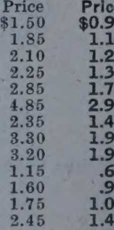
AEROVOX
HI-FARAD
DRY

These capacitors are tightly sealed round aluminum can units. They are mounted by means of prongs which extend through the mounting surface and are twisted to hold the unit in place. These are high-quality units especially suitable in compact assemblies where space is limited. All connections, except the cathode, are made through terminals in the cover. The cathode is connected to the container. Base prongs slip into fibre or metal elliptic washer that is riveted or eyeletted on chassis, and are bent over. Fibre washer provides insulated can; metal elliptic washer, grounded can. **Metal or fibre washer supplied at 5c each net.** The terminal lugs slip through holes in washers for soldered connections.

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
AF2J	10x450	1x2	$0.90	$0.54
AF3J	15x450	1x2	1.20	.72
AF4J	20x450	1x2	1.35	.81
AF6J	30x450	1x3	1.65	.99
AF8J	40x450	1x3	1.95	1.17
AF22J	10-10x450	1x2	1.45	.87
AF44J	20-20x450	1x3	2.00	1.20
AF222J	10-10-10x450	1x3	1.90	1.14
AF444J	20-20-20x450	1⅜x2½	2.60	1.56
AF2222J	10-10-10-10x450	1⅜x2	2.30	1.38
AF4444J	20-20-20-20x450	1⅜x3	3.30	1.98
AF16H	80x400	1⅜x2½	2.95	1.77
AF3G	15x300	1x2	1.00	.60
AF4F	20x250	1x2	1.05	.63
AF22F	10-10x250	1x2	1.30	.78
AF44F	20-20x250	1x2	1.35	.81
AF5D	25x150	1x2	1.05	.63
AF6D	30x150	1x2	.85	.51
AF8D	40x150	1x2	1.10	.66
AF44D	20-20x150	1x2	1.20	.72
AF66D	30-30x150	1x2	1.35	.81
AF88D	40-40x150	1x2½	1.50	.90
AF1010D	50-50x150	1x2½	1.65	.99
AF444D	20-20-20x150	1x2	1.45	.87
AF844D	40-20-20x150	1x2½	1.65	.99
AF888D	40-40-40x150	1⅜x2	1.95	1.17
AF5A	25x25	1x2	.90	.54
AF22J4A	10-10x450+20x25	1x2½	1.60	.96
AF44J4A	20-20x450+20x25	1⅜x2	2.20	1.32
AF444J4A	20-20-20x450+20x25	1⅜x2½	2.75	1.65
AF32K4A	15-10x350+20x25	1x2½	1.35	.81
AF33F4A	15-15x250+20x25	1x2	1.35	.81
AF44D40A	20-20x150+20x25	1x2	1.30	.78
AF64D4A	30-20x150+20x25	1x2	1.40	.84
AF84D20A	40-20x150+20x25	1x2½	1.50	.90
AF86D4A	40-30x150+20x25	1x2½	1.70	1.02
AF88DA4	40-40x150+20x25	1x2½	1.65	.99
AF444D4A	20-20-20x150+20x25	1⅜x2	1.70	1.02
AF886D4A	40-40-30x150+20x25	1⅜x2	2.00	1.20

PLUG-IN ELECTROLYTIC CAPACITORS

TYPE AEP



Quick change dry electrolytics. Facilitate testing and replacement in equipment where continuity of service is important. Install merely by plugging into standard octal socket. Unit can be inserted **only the right way.** Key of octal base fits octal socket. Ultra-compact due to use of etched foil for higher capacities in the small can sizes. Aluminum internal construction. Non-corrosive due to use of similar metals throughout. Fully vented for safety.

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
AEP2J	10x450	1 5/32x2½	$1.50	$0.90
AEP3J	15x450	1 5/32x2½	1.85	1.11
AEP4J	20x450	1 5/32x2½	2.10	1.26
AEP6J	30x450	1 5/32x2½	2.25	1.35
AEP8J	40x450	1 5/32x2½	2.85	1.71
AEP16J	80x450	1⅜x3½	4.85	2.91
AEP22J	10-10x450	1 5/32x2½	2.35	1.41
AEP44J	20-20x450	1⅜x2½	3.30	1.98
AEP222J	10-10-10x450	1 5/32x2½	3.20	1.92
AEP4D	20x150	1 5/32x2½	1.15	.69
AEP8D	40x150	1 5/32x2½	1.60	.96
AEP44D	20-20x150	1 5/32x2½	1.75	1.05
AEP88D	40-40x150	1 5/32x2½	2.45	1.47
AEP444D	20-20-20x150	1 5/32x2½	2.60	1.56
AEP5A	25x25	1 5/32x2½	.85	.51
AEP22J4A	10-10x450+20x25	1 5/32x2½	2.45	1.47
AEP44J4A	20-20-450+20x25	1⅜x2½	2.90	1.74
AEPG444J4A	20-20-20x450+20x25*	1⅜x3	3.60	2.16
AEP88D4A	40-40x150+20x25	1 5/32x2½	2.95	1.77
AEPG444D4A	20-20-20x150+20x25*	1⅜x2½	3.10	1.86

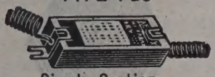
*Ground lug provided for cathode connection.

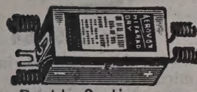
During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. • Also, prices subject to change without notice.

AEROVOX Electrolytic Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

SPACE-SAVER MIDGET CAPACITORS
TYPE PBS


Single Section


Double Section

Units encased in heavy cardboard containers, thoroughly impregnated and fully sealed. Two color-coded wire leads for each section; four leads, double section; six leads, triple section. Units may be mounted flat or upright; also, two or three units may be stacked by overlapping the metal flanges.

800v. Surge Pk.–600v. D.C. Work.

Type PBS600—Single Section

Cap. Mfds.	Size-Ins. H.—W.—L.	List Price	Net Price
4	1 7/16x1⅛x2 7/16	$2.10	$1.26
8	1 7/16x1½x3⅛	2.95	1.77

525v. Surge Pk.–450v. D.C. Work.

Type PBS450—Single Section

Cap. Mfds.	Size-Ins. H.—W.—L.	List Price	Net Price
2	½x ¾x2 7/16	$0.80	$0.48
[illegible]	9/16x1 x2 7/16	.90	.54
[illegible]	11/16x1⅛x2 7/16	1.10	.66
8	11/16x1⅛x2 7/16	1.15	.69
10	11/16x1⅛x3 5/16	1.40	.84
12	11/16x1⅛x3 5/16	1.60	.96
16	1 7/16x1⅛x2 7/16	1.75	1.05

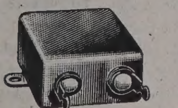
Type PBS450—Double Section

Cap. Mfds.	Size-Ins. H.—W.—L.	List Price	Net Price
8-8	1 7/16x1⅛x2 7/16	1.80	$1.08
8-16	1¼x1½x3	2.30	1.38

Type PBS450—Triple Section

Cap. Mfds.	Size-Ins. H.—W.—L.	List Price	Net Price
8-8-8	1¼x1½x3	$2.65	$1.59

DRAWN-CASE "BATHTUB" ELECTROLYTICS
TYPE BT



Ideal for applications in compact equipment where space is at premium, and rigid mounting is necessary. Sturdy immersion-proof construction.

Type BT 500—500v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
4	2 x2 x1⅛	$3.90	$2.34
8	2 x2 x1⅛	4.25	2.55

Type BT 450—450v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
8	1¾x1¼x1⅛	$2.75	$1.65
12	1¾x1¼x1⅛	2.90	1.74
16	1¾x1¼x1⅛	3.15	1.89

Type BT 350—350v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
8	1¾x1 x 15/16	$2.35	$1.41
12	1¾x1¼x1⅛	2.80	1.68
16	1¾x1¼x1⅛	3.00	1.80
20	1¾x1¼x1⅛	3.15	1.89

Type BT 150—150v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
8	1¾x1 x 15/16	$2.10	$1.26
12	1¾x1 x 15/16	2.20	1.32
16	1¾x1 x 15/16	2.40	1.44
24	1¾x1 x 15/16	2.55	1.53
30	1¾x1¼x1⅛	2.65	1.59
40	1¾x1¼x1⅛	2.75	1.65

Type BT 50—50v D.C.W.

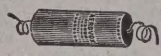
Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
10	1¾x1 x 15/16	$2.25	$1.35
25	1¾x1 x 15/16	2.40	1.44
50	1¾x1 x 15/16	2.70	1.62

Type BT 25—25v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
10	1¾x1 x 15/16	$2.10	$1.26
25	1¾x1 x 15/16	2.20	1.32
50	1¾x1 x 15/16	2.55	1.59

TUBULAR CARDBOARD CONTAINER CAPACITORS
TYPES PRS-V, PRS-A, PRS-B

Wax-sealed, tubular units in impregnated cardboard containers. Type PRS-V is single section capacitor with bare wire lead at each end. Type PRS-A is dual-element, common - cathode concentrically wound (CCCW) unit. Three insulated leads, negative lead at one end and two positive leads at other end. A riveted mounting strap is supplied as shown. Type PRS-B is a dual-section capacitor with positive and negative insulated lead for each section. Positive leads are at one end, negative leads at other. Leads are color-coded. Type PRS-B also supplied with riveted mounting strap.



TYPE PRS-V
Single Section Units

Type PRS-V 450

525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	⅝ x 2 3/16	$0.70	$0.42
8	¾ x 2 3/16	.75	.45
10	⅞ x 2 3/16	.85	.51
12	⅞ x 2 3/16	.90	.54
16	⅞ x 2¾	1.10	.66
20	15/16 x 2¾	1.20	.72
30	1 x 2¾	1.45	.87
40	1⅛ x 2¾	1.75	1.05

Type PRS-V 350

400v Surge Pk.—350v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	9/16 x 2¾	$0.60	$0.36
8	¾ x 2 3/16	.70	.42
12	¾ x 2¾	.85	.51
16	¾ x 2¾	1.00	.60
24	⅞ x 2¾	1.10	.66

Type PRS-V 250

300v Surge Pk.—250v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	9/16 x 2	$0.55	$0.33
8	⅝ x 2 3/16	.60	.36
12	¾ x 2 3/16	.80	.48
16	⅝ x 2¾	.90	.54
20	¾ x 2¾	1.00	.60

Type PRS-V 150

200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	9/16 x 2	$0.50	$0.30
8	⅝ x 2 3/16	.55	.33
12	⅝ x 2 3/16	.60	.36
16	11/16 x 2 3/16	.70	.42
20	¾ x 2 3/16	.75	.45
24	¾ x 2 3/16	.75	.45
30	13/16 x 2 3/16	.80	.48
40	¾ x 2¾	.85	.51
50	13/16 x 2¾	1.10	.66

Type PRS-V 50

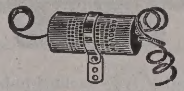
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	9/16 x 2 3/16	$0.55	$0.33
25	⅝ x 2 3/16	.70	.42
50	¾ x 2 3/16	1.00	.60
100	⅞ x 2 3/16	1.20	.72

Type PRS-V 25

40v Surge Pk.—25v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	9/16 x 2	$0.50	$0.30
25	⅝ x 2 3/16	.60	.36
50	11/16 x 2 3/16	.75	.45
100	13/16 x 2 3/16	1.10	.66



TYPE PRS-A
Dual-Element Concentrically-Wound Capacitors with 3 Leads (One Lead Common)

Type PRS-A 450

525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1 x 2⅝	$1.30	$0.78
8-16	1 x 2⅞	1.60	.96
10-10	1 x 2⅞	1.40	.84

Type PRS-A 200

250v Surge Pk.—200v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	¾ x 2⅝	$1.15	$0.69
8-16	13/16 x 2 5/16	1.20	.72
16-16	⅞ x 2 5/16	1.40	.84

Type PRS-A 150

200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	11/16 x 2 5/16	$1.00	$0.60
8-16	¾ x 2 5/16	1.05	.63
20-20	⅞ x 2⅝	1.30	.78

Type PRS-A 50

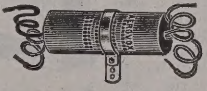
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	⅝ x 2⅝	$1.00	$0.60

Type PRS-A 25

40v Surge Pk.—25v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	⅝ x 2⅝	$0.85	$0.51



TYPE PRS-B
Dual-Section Capacitors with 4 Leads (Separate Sections)

TYPE PRS-B 450

525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1 x 3	$1.65	$0.99
8-16	1⅛ x 3½	2.30	1.38

Type PRS-B 250

300v Surge Pk.—250v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
16-16	1 x 3	$2.00	$1.20

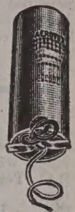
Type PRS-B 150

200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
20-20	1 x 2½	$1.65	$0.99

CLAMP-MOUNTING CARDBOARD TUBE CAPACITORS
TYPE PRV

Substitute for Metal-Can Types E, F, G, GL, GLS, I, PG, PGM



Although originally designed as a substitute for those standard aluminum-can electrolytics that require a hole in the chassis for mounting, this Aerovox Victory Electrolytic has become immensely popular as a standard item. The unit is easily and rigidly mounted by means of the center screw and the metal clamp. These capacitors are separate section units provided with a positive and negative lead for each section, except for multiple-element units which are concentrically wound and are provided with common negative. Leads are color-coded.

Type PRV 600—Single Section 600v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 4	$2.15	$1.29
8	1⅜ x 4	3.05	1.83
15	1⅛ x 4	4.50	2.70

Type PRV 450—Single Section 450v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8	1⅜ x 3	$1.15	$0.69
10	1⅜ x 3	1.40	.84
12	1⅜ x 3	1.60	.96
16	1⅜ x 3	1.75	1.05
20	1⅜ x 3	2.00	1.20
30	1⅜ x 3	2.80	1.68
40	1⅜ x 3	3.60	2.16

Type PRV 450—Double Section

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 4	$1.80	$1.08
8-16	1⅜ x 4	2.30	1.38
16-16	1⅜ x 4	2.70	1.62
20-20	1⅜ x 4¾	3.20	1.92

Type PRV 450—Triple Section

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8-8	1⅜x4¾	$2.65	$1.59
10-10-10	1⅜x4¾	3.30	1.98

Type PRV 350—Double Section 350v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
16-16	1⅜ x 4	$2.35	$1.41

Type PRV 200—Double Section 200v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
16-16	1⅜ x 3	$2.00	$1.20

Type PRV 150—Double Section

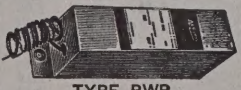
Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
20-20	1⅜ x 3	$2.00	$1.20
30-30	1⅜ x 3	2.40	1.44

Type PRV—Multiple Sections 200v x 25v D.C. Working

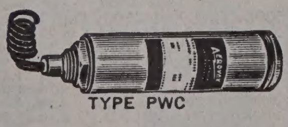
Type	Cap. Mfd. x D.C.W.V.	Size D. x H.
PRV1612	16-12x200 +10-10x25	1⅜x3

List Price $2.60—Net Price $1.56

PAPER-WOUND REPLACEMENTS FOR ELECTROLYTIC CAPACITORS



TYPE PWP



TYPE PWC

High-grade paper sections in standard inverted screw mounting aluminum can (PWC) or cardboard case (PWP) similar in appearance to electrolytics. Used as replacements for standard electrolytics indicated; applications subjected to high AC component or ripple particularly in first stage of filter circuit; or where excessive surges are encountered. No polarity to be observed. Actual capacity indicated in each case. Capacity is less than electrolytic being replaced but will be found adequate in most filter circuits since filtering capacity in electrolytics is more than generous. PWP has cardboard mounting flanges; PWC similar to the inverted dry electrolytic types.

800v. Surge Pk.–600v. D.C. Work.

Type PWC600—Single Section

Repl'g. Mfds.	Act. Mfds.	Size-Ins. D. L.	List Price	Net Price
4	2	1⅜ x 4½	$1.65	$0.99
8	2.75	1⅜ x 4½	2.10	1.26

Type PWC600—Double Section

Repl'g. Mfds.	Act. Mfds.	Size-Ins. D. L.	List Price	Net Price
8-8	1.75-1.75	1½ x 4½	$3.40	$2.04

Type PWP600—Single Section

Repl'g. Mfds.	Act. Mfds.	Size-Ins.	List Price	Net Price
4	2	4⅛x1⅜x 15/16	$1.45	$0.8
8	3	4⅛x1⅝x1⅛	1.95	1.1

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

AEROVOX Mica Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

"POSTAGE-STAMP" MOLDED-IN-BAKELITE MICA CAPACITORS

Wide choice of designs, sizes, mountings, terminals offer the correct Aerovox unit for every application, as listed. Units built of selected mica and foil; molded bakelite casing impervious to moisture, heat, mechanical damage. Micrometer test for mica thickness maintains capacity values for long life. Capacity values indicated on units.

Type 1467

Compact, size $\frac{25}{32}$ in. square, provided with wire leads. 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	$0.25	$0.15	.003	$0.50	$0.30
.00075	.25	.15	.004*	.55	.33
.001	.30	.18	.005*	.60	.36
.0015	.30	.18	.006*	.75	.45
.002	.40	.24	.008*	.80	.48
.0025	.45	.27	.01*	.90	.54

*600v D.C. Test—300v D.C. Working.

Type 1468

Midget size $\frac{45}{64}$″ x $\frac{29}{64}$″ x $\frac{3}{16}$″ provided with wire leads. 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.000001	$0.20	$0.12	.00015	$0.20	$0.12
.000005	.20	.12	.0002	.20	.12
.00001	.20	.12	.00025	.25	.15
.000025	.20	.12	.0003	.25	.15
.00004	.20	.12	.00035	.25	.15
.00005	.20	.12	.0004	.25	.15
.000075	.20	.12	.0005	.25	.15
.0001	.20	.12	.00075	.25	.15
			.001	.30	.18

Type 1478

With wire leads. Size $1\frac{1}{16}$″ x $\frac{7}{16}$″ x $\frac{3}{16}$″. 1000 volts D.C. Test—500 volts D.C. Working.

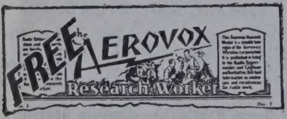
Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	$0.25	$0.15	.0015	$0.30	$0.18
.00075	.25	.15	.002	.35	.21
.001	.30	.18			

Type 1441W

With wire leads. Size 1″ x ⅝″. 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	$0.25	$0.15	.003	$0.50	$0.30
,00075	.25	.15	.004†	.55	.33
.001	.30	.18	.005†	.60	.36
.0015	.30	.18	.006†	.75	.45
.002	.40	.24	.008*†	.80	.48
.0025	.45	.27	.01*†	.90	.54

*5/16″ thick. All others 3/16″ thick.
†600v D.C. Test—300v D.C. Working.



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MOLDED-IN-BAKELITE MICA CAPACITORS

Type 1460

Popular type molded-in-bakelite mica capacitor. Size 1⅝″ x ⅝″. Two soldering lug terminals. 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0001	$0.20	$0.12	.00075	$0.25	$0.15
.00015	.20	.12	.001	.30	.18
.0002	.20	.12	.0015	.30	.18
.00025	.25	.15	.002	.40	.24
.0003	.25	.15	.0025	.45	.27
.00035	.25	.15	.003	.50	.30
.0004	.25	.15	.004*	.55	.33
.0005	.25	.15	.005*	.60	.36

*600v D.C. Test—300v D.C. Working; 9/32″ thick, all others 17/64″.

PORCELAIN-CASED MICA CAPACITORS

Types 1991-96

Ideal for those higher-frequency applications. Encased and hermetically-sealed in glazed porcelain case. Heavy-duty terminals. Power loss due to dielectric absorption reduced to a minimum. Units operate at full load without heating up. Dimensions: 3½″ between mounting holes, 4″ overall by 3″ high.

Type 1991—2000v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.02	$9.90	$5.94	.1	$13.20	$7.92

Type 1992—3500v. Max. D.C.

.001	$5.40	$3.24	.005	$9.00	$5.40
.0015	5.40	3.24	.01	12.00	7.20
.002	6.60	3.96	.02	12.00	7.20
.003	7.20	4.32	.05	13.80	8.28

Type 1993—5000v. Max. D.C.

.002	$7.20	$4.30	.005	$9.00	$5.40
.003	7.80	4.68	.01	12.60	7.56

Type 1994—7000v. Max. D.C.

.0005	$5.40	$3.24	.003	$8.40	$5.04
.001	6.00	3.60	.005	11.40	6.84
.0015	6.60	3.96	.01	12.60	7.56
.002	7.80	4.68			

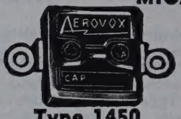
Type 1995—10000v. Max. D.C.

.002	$8.40	$5.04	.005	$12.00	$7.20
.003	10.80	6.48			

Type 1996—12500v. Max. D.C.

.00005	$6.60	$3.36	.001	$6.60	$3.96
.0001	6.60	3.96	.0015	7.80	4.68
.00025	6.60	3.96	.002	9.00	5.40
.0005	6.60	3.96	.003	12.60	7.56

HIGH-VOLTAGE MOLDED-IN-BAKELITE MICA CAPACTORS



Type 1450

1000v D.C. Test-600v D.C. Work.

Intended for the more critical service of low-powered transmitting circuits, buffer stages, power amplifiers, and laboratory equipment, etc. Non-magnetic parts are used to reduce r.f. losses to minimum, and heavy terminals provide minimum r.f. and contact resistance. Intended for point-to-point wiring, being supported entirely by its soldered connections. 1¼″ x 1¼″. $\frac{5}{16}$″ or ¾″ thick (see below).

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00025	$0.45	$0.27	.005	$0.70	$0.42
.0003	.45	.27	.006	.80	.48
.00035	.45	.27	.008	.90	.54
.0004	.45	.27	.01	1.00	.60
.0005	.45	.27	.015*	1.35	.81
.001	.50	.30	.02*	1.45	.87
.0015	.55	.33	.025*	1.75	1.05
.002	.55	.33	.03*†	2.05	1.23
.0025	.60	.36	.04*†	2.65	1.59
.003	.70	.42	.05*†	3.30	1.98
.004	.70	.42			

*600v D.C. Test—300v D.C. Working.
†3/4″ thick. All others 5/16″.

Types 1455-57

Size 1¼″ x $1\frac{25}{32}$″ x $\frac{11}{32}$″

Types 1455-57, have insulated mounting holes, independent of soldering lugs, for connections. 1½″ spacing between mounting hole centers. If $1\frac{5}{16}$″ spacing is preferred specify Types 1445-47. Large meter-mounting brackets permitting use of this type of unit for shunting meter windings may be obtained at 45c added to list price. Specify by adding suffix (A) to type number. Small brackets are also available at 25c additional. Specify by suffix (E). Both brackets have universal slots for either mounting hole spacing.

Type 1455

1000v D.C. Test-600v D.C. Work.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00005	$0.60	$0.36	.0025	$0.80	$0.48
.0001	.60	.36	.003	.85	.51
.00015	.60	.36	.004	.85	.51
.0002	.60	.36	.005	.85	.51
.00025	.60	.36	.006	1.05	.63
.0003	.60	.36	.008	1.20	.72
.00035	.60	.36	.01	1.40	.84
.0004	.60	.36	.015	1.60	.96
.0005	.60	.36	.02	1.90	1.14
.001	.60	.36	.025	2.30	1.38
.0015	.60	.36	.03	2.55	1.53
.002	.70	.42			

Type 1456

2500v D.C. Test-1250v D.C. Work.

.00005	$0.85	$0.51	.0015	$1.40	$0.84
.0001	.85	.51	.002	1.65	.99
.00015	.85	.51	.0025	1.75	1.05
.0002	.85	.51	.003	1.85	1.11
.00025	.85	.51	.004	1.85	1.11
.0003	.85	.51	.005	2.10	1.26
.00035	.85	.51	.006	2.10	1.26
.0004	.85	.51	.008	2.70	1.62
.0005	.85	.51	.01	3.40	2.04
.001	1.10	.66			

Type 1457

5000v D.C. Test-2500v D.C. Work.

.00005	$1.10	$0.66	.0004	$1.45	$0.87
.000075	1.10	.66	.0005	1.50	.90
.0001	1.10	.66	.001	1.80	1.08
.00015	1.15	.69	.0015	2.35	1.41
.0002	1.25	.75	.002	2.70	1.62
.00025	1.30	.78	.0025	3.00	1.80
.0003	1.35	.81	.003	3.30	1.98
.00035	1.40	.84			

Types 1650-54

Heaviest-duty molded in bakelite mica capacitors of the AEROVOX line. Provided with threaded holes taking the roundhead screw terminals. Also available with plain holes through which screws or rods may be slipped. Same price as 1650 series, but specify 1650A, etc. when latter is desired. $\frac{7}{16}$″ or ¾″ thick (see * below). Types 1650, 1651 and 1652 are supplied in brown bakelite. Types 1653L and 1654L are supplied only in low-loss (yellow) XM Bakelite.

Type 1650

1000v D.C. Test-600v D.C. Work.
700v A.C. Test-350v A.C. Work.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00005	$0.75	$0.45	.004	$1.05	$0.63
.0001	.75	.45	.005	1.05	.63
.00025	.75	.45	.006	1.20	.72
.0003	.75	.45	.008	1.45	.87
.00035	.75	.45	.01	1.70	1.02
.0004	.75	.45	.015	1.95	1.17
.0005	.75	.45	.02	2.25	1.35
.001	.75	.45	.025	2.75	1.65
.0015	.80	.48	.03	3.00	1.80
.002	.80	.48	.04*	3.90	2.34
.0025	.90	.54	.05*	4.65	2.79
.003	1.05	.63	.06*	5.40	3.24

Type 1651

2500v D.C. Test-1250v D.C. Work.
1750v A.C. Test-875v A.C. Work.

.00005	$0.85	$0.51	.003	$1.90	$1.14
.0001	.85	.51	.004	1.90	1.14
.00025	.85	.51	.005	2.10	1.26
.0003	.85	.51	.006	2.10	1.26
.00035	.85	.51	.008	2.70	1.62
.0004	.85	.51	.01	3.40	2.04
.0005	.85	.51	.015	4.05	2.43
.001	1.10	.66	.02*	4.75	2.85
.0015	1.40	.84	.025*	5.30	3.18
.002	1.65	.99	.03*	5.55	3.33
.0025	1.75	1.05			

Type 1652

5000v D.C. Test-2500v D.C. Work.
3500v A.C. Test-1750v A.C. Work.

.00005	$1.10	$0.66	.001	$1.80	$1.08
.000075	1.10	.66	.0015	2.30	1.38
.0001	1.10	.66	.002	2.70	1.62
.00015	1.15	.69	.0025	3.00	1.80
.0002	1.20	.72	.003	3.30	1.98
.00025	1.30	.78	.004	3.80	2.28
.0003	1.35	.81	.005	4.10	2.46
.00035	1.40	.84	.006	4.20	2.52
.0004	1.45	.87	.008*	4.60	2.76
.0005	1.50	.90	.01*	4.95	2.97

Type 1653L

7500v D.C. Test-3750v D.C. Work.
5250v A.C. Test-2625v A.C. Work.

.00005	$2.30	$1.38	.0004	$4.10	$2.46
.000075	2.50	1.50	.0005	4.50	2.70
.0001	2.65	1.59	.001	5.35	3.21
.00015	2.85	1.71	.0015	7.05	4.23
.0002	3.00	1.80	.002	8.00	4.80
.00025	3.30	1.98	.0025	8.95	5.37
.0003	3.40	2.04	.003*	9.90	5.94
.00035	4.00	2.40			

Type 1654L

10000v D.C. Test-5000v D.C. Work.
7000v A.C. Test-3500v A.C. Work.

.00005	$2.60	$1.56	.0003	$4.95	$2.97
.000075	2.85	1.71	.00035	5.20	3.12
.0001	3.20	1.92	.0004	5.35	3.21
.00015	3.50	2.10	.0005	6.90	4.14
.0002	4.35	2.61	.001*	8.70	5.22
.00025	4.75	2.85			

*3/4″ thick. All others 7/16″.

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

AEROVOX Mica Capacitors

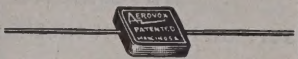
IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

SILVERED MICA CAPACITORS

For most critical applications where precise capacity values must be attained and maintained, AEROVOX silvered mica units are generally available. Encased in red molded XM bakelite. Similar in external appearance to standard bakelite molded mica units.

Unique construction. Only plus .0022 per degree F.—a remarkably low temperature coefficient. Excellent retrace characteristics. Practically no capacity drift with time. Exceptionally high "Q". Mechanically protected against physical damage and changes in electrical characteristics due to varying atmospheric conditions. Wax impregnated externally. Ideal for use in circuits where inductance and capacity product must remain constant under all operating conditions. Specifically designed for use in push-button tuning, oscillator padding circuits, fixed tuned circuits, and as capacitance standards, etc., where accuracy and stability are of prime importance.

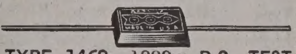
Standard tolerance ±5%. For ±20% deduct 10% from price. For ±10% deduct 5%. For ±3% add 10%. For ±2% add 15%. For ±1% add 25%.



TYPE 1464—1000v. D.C. TEST

Size $\frac{25}{32}$ in. square. Provided with wire leads. *600v. D.C. test.

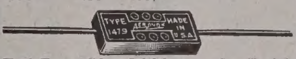
Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00075	$1.20	$0.72	.002	$1.80	$1.08
.0008	1.20	.72	.0025	2.40	1.44
.0009	1.35	.81	.003*	2.70	1.62
.001	1.50	.90	.004*	2.85	1.71
.0015	1.80	1.08	.005*	3.00	1.80



TYPE 1469—1000v. D.C. TEST

Size $\frac{45}{64}$" x $\frac{29}{64}$". Provided with wire leads.

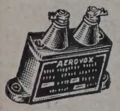
.000005	$0.60	$0.36	.00015	$0.60	$0.36
00001	.50	.30	.0002	.60	.36
000025	.50	.30	.00025	.60	.36
.00004	.50	.30	.0003	.90	.54
00005	.50	.30	.00035	.90	.54
.00007	.50	.30	.0004	.90	.54
.000075	.50	.30	.0005	.90	.54
.0001	.50	.30			



TYPE 1479—1000v. D.C. TEST

Size $1\frac{1}{16}$" x $\frac{7}{16}$". Provided with wire leads.

.0001	$0.50	$0.30	.0005	$0.90	$0.54
.00015	.60	.36	.0007	1.20	.72
.0002	.60	.36	.00075	1.20	.72
.00025	.60	.36	.0008	1.20	.72
.0003	.90	.54	.0009	1.35	.81
.00035	.90	.54	.001	1.50	.90
.0004	.90	.54			



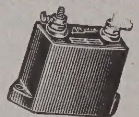
Commercial Grade
MICA TRANSMITTING CAPACITORS

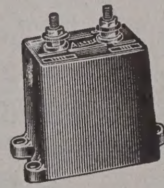
- The self-same extra-heavy-duty capacitors Aerovox is supplying on high priority to the Army and Navy, to commercial communication companies and broadcasters, and to builders of quality radio and electronic equipment, will again be available to amateurs and experimenters as soon as war restrictions are removed.

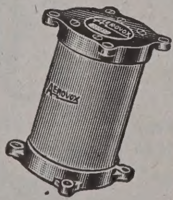
With these capacitors Aerovox is contributing its share towards narrowing still more the small remaining gap between professional and amateur radio practices.

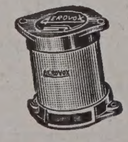
Due to the normally limited demand for these extra-heavy-duty mica capacitors, as well as the considerable number of capacitance and voltage ratings in which they are made, this line is made to special order. However, your Authorized Aerovox Jobber will be in a position to order these commercial-grade capacitors for you whenever they again become available.

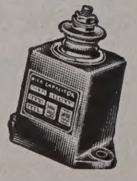
In the meantime, these capacitors are presently available for high-priority orders. Consult your Aerovox Jobber for specifications and quotations.

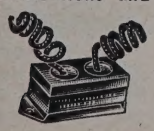


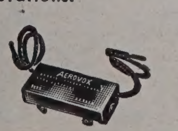






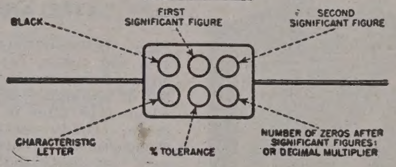






MICA CAPACITOR COLOR CODES

ASA COLOR CODE


BLACK
FIRST SIGNIFICANT FIGURE
SECOND SIGNIFICANT FIGURE
CHARACTERISTIC LETTER
% TOLERANCE
NUMBER OF ZEROS AFTER SIGNIFICANT FIGURES: OR DECIMAL MULTIPLIER

Color	Figure or Multiplier	Characteristic Letter	Tolerance
Black	0	A	20% (M)
Brown	1	B	....
Red	2	C	2% (G)
Orange	3	D	....
Yellow	4	E	....
Green	5	F	....
Blue	6	G	....
Violet	7	..	....
Gray	8	..	....
White	9	..	....
Gold	.1	..	5% (J)
Silver	.01	..	10% (K)

CHARACTERISTIC LETTERS

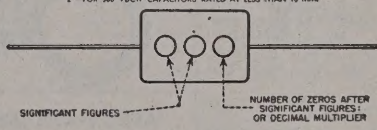
Characteristic	Q	Temperature Coefficient Parts/Million/deg. C	Maximum Capacitance Drift (F-6)	Verification of Characteristics by Production Test
A	Not specified	Not specified	Not specified	Not required
B	[As specified	Not specified	Not specified	Not required
C	in D-5c (1)]	—200 to +200	0.5 per cent	Not required
D	"	—100 to +100	0.2 per cent	Not required
E	"	0 to +100	0.05 per cent	Not required
F	"	0 to +50	0.025 per cent	Required
G	"	0 to —50	0.025 per cent	Required

Type No.	AEROVOX No. & Remarks
CM20	1468, 1469
CM25	1478, 1479
CM30	1464, 1467
CM35	1467 (500 v. DCW up to .0062 mfd. incl.)
CM40	1441W (500 v. DCW up to .0082 mfd. incl.)
CM45	1447 thin (up to .0018 mfd., incl.)
CM45	1446 thin (.002 to .0036 mfd., incl.)
CM45	1445 thin (.0039 to .01 mfd., incl.)
CM50	1447 thick (.002 to .0051 mfd., incl.)
CM50	1446 thick (.0056 to .011 mfd., incl.)
CM50	1445 thick (.012 to .027 mfd., incl.)
CM55	1652 thin (up to .0043 mfd., incl.)
CM55	1651 thin (.0047 to .013 mfd., incl.)
CM55	1650 thin (.015 to .033 mfd., incl.)
CM56	1652A thin (up to .0043 mfd., incl.)
CM56	1651A thin (.0047 to .013 mfd., incl.)
CM56	1650A thin (.015 to .003 mfd., incl.)
CM60	1652 thick (up to .016 mfd., incl.)
CM60	1651 thick (.018 to .033 mfd., incl.)
CM60	1650 thick (.036 to .047 mfd., incl.)
CM61	1652A thick (up to .016 mfd., incl.)
CM61	1651A thick (.018 to .033 mfd., incl.)
CM61	1650A thick (.036 to .047 mfd., incl.)
CM65	1570
CM70	1550
CM75	1950
CM80	1960
CM85	1970
CM90	1980
CM95	1940

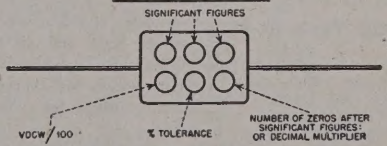
RMA COLOR CODE

THREE DOT RMA COLOR CODE

USED ONLY UNDER THE FOLLOWING TWO CONDITIONS:
1—FOR 500 VDCW CAPACITORS WHOSE TOLERANCE IS GREATER THAN 10%.
2—FOR 500 VDCW CAPACITORS RATED AT LESS THAN 10 MMF


SIGNIFICANT FIGURES
NUMBER OF ZEROS AFTER SIGNIFICANT FIGURES: OR DECIMAL MULTIPLIER

SIX DOT RMA COLOR CODE


SIGNIFICANT FIGURES
VDCW/100
% TOLERANCE
NUMBER OF ZEROS AFTER SIGNIFICANT FIGURES: OR DECIMAL MULTIPLIER

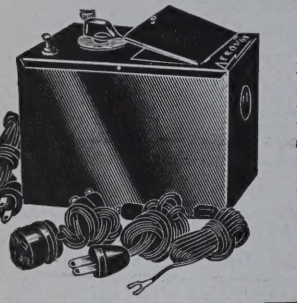
Color	Significant Figure, or No. of Zeros, or Decimal Multiplier	VDCW	Tolerance
Black	0	....	....
Brown	1	100	1%
Red	2	200	2%
Orange	3	300	3%
Yellow	4	400	4%
Green	5	500	5%
Blue	6	600	....
Violet	7	700	....
Gray	8	800	....
White	9	900	....
Gold	.1	1000	5%
Silver	.01	2000	10%
None	..	500	20%

During the present emergency, we reserve the right to make mechanical charges without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

AEROVOX Interference Filters and Auto-Radio CONDENSERS

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

AEROVOX INTERFERENCE ANALYZER

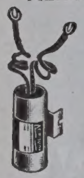


TYPE ANL-37

Plugs between interfering device and outlet. Selector switch adjusted until noise is eliminated or minimized. Dial indicates which type filter to use. Handsome, sturdy metal cabinet. Compartment contains necessary test leads and attachment plugs and clips. Size 5½ x 5½ x 8 inches.

TYPE ANL-37
Dealers' and Servicemen's
Net Price $8.40

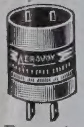
AEROVOX Type IN-23



Especially for elimination of interference caused by fractional horsepower motors. Mounting bracket for attaching to frame of motor. Flexible leads for connecting across motors such as in hairdriers, fans, mixers, etc. .5-.5 mfd. 1 x 2⅛ in.

TYPE IN-23
List Price $0.90....Net Price $0.54

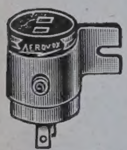
AEROVOX Type IN-27



Simple, inexpensive noise filter. Inserted between set and outlet when interference is slight. Also used with appliance causing low-intensity interference. Keeps troublesome noises out of house wiring and power line. Size 1⅜ x 1½ inches.

TYPE IN-27
List Price $0.80....Net Price $0.48

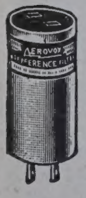
AEROVOX Type IN-28



Intended for cases where ground is considerable distance from point of application. Most efficient when mounted directly on interfering device by bracket. Size 1⅜ x 2 inches.

TYPE IN-28
List Price $1.15....Net Price $0.69

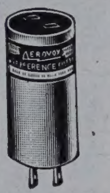
AEROVOX Type IN-29



Provides additional filtering action over IN-27 and IN-28. Especially effective for local sources of interference of variable character but strong intensity. Very effective for electric razor and other vibrating devices. Plugs between device and line. Size 1⅜ x 3 inches.

TYPE IN-29
List Price $0.90....Net Price $0.54

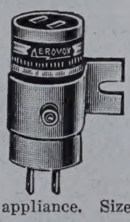
AEROVOX Type IN-30



Similar to IN-29 but with additional inductance. Handles more severe interference. Plugs between set and outlet, or preferably between noisy appliance and outlet. Size 1⅜ x 3 inches.

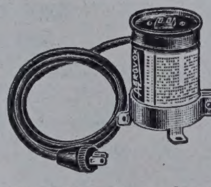
TYPE IN-30
List Price $1.50....Net Price $0.90

AEROVOX Type IN-31



Plugs in between attachment cord and electric outlet, either of set or preferably at appliance. Additional inductance for better filtering. Works best mounted by bracket directly on interfering appliance. Size 1⅜ x 3 inches.

TYPE IN-31
List Price $1.80....Net Price $1.08



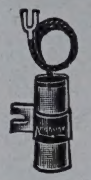
AEROVOX Type IN-42

Designed for use in the more serious cases of radio interference from power lines and appliances. Provided with inductance as well as capacitance for thorough filtering action. Plugs into electric outlet, Radio set or interfering device plugs into receptacle of the filter. Recommended for use between interfering device and power line. Size 2½" x 3¾". Provided with mounting ring. Rated at 6 amps. for 110-220v. A.C..

TYPE IN-42
List Price $5.70....Net Price $3.42

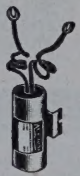
AUTO-RADIO CONDENSERS

SUPPRESSOR CONDENSERS



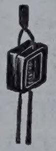
Type	Cap. Mfd.	List Price	Net Price
1120	1.0	$0.90	$0.54
1140	0.5	.60	.36

Dual-Section SUPPRESSOR CONDENSERS



Type	Cap. Mfd.	List Price	Net Price
1141	.5-.5	$0.90	$0.54

MOTOROLA Replacement Condenser

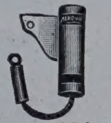


For Models
65 and 70
(Part No. 3321)

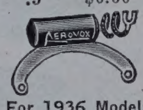
(2) Type 1466
2500v. D.C. Test

Cap. Mfd.	List Price	Net Price
.0008	$0.60	$0.36

SUPPRESSOR CONDENSERS FOR FORD AUTO RADIOS



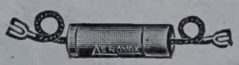
Type	Cap. Mfd.	List Price	Net Price
1144	.5	$0.60	$0.36



For 1936 Models

Type	Cap. Mfd.	List Price	Net Price
1150	.5	$0.60	$0.36

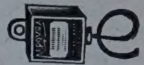
AMMETER CONDENSERS



Type	Cap. Mfd.	List Price	Net Price
1160	.5	$0.55	$0.33

Oil-Impregnated Metal-Case

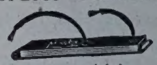
VIBRATOR CONDENSERS



Type 1130 — One Lead Cap.	Cap.	Type 1131- Two Leads Cap.
.007 Mfd.		.007 Mfd.
.01 Mfd.	.05 Mfd.	.01 Mfd.
.02 Mfd.	.06 Mfd.	.02 Mfd.
.03 Mfd.	.07 Mfd.	

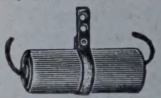
Any Capacity, Each
List Price $0.55....Net Price $0.33

Oil-Impregnated Vibrator Condensers



Type	Cap.	List Price	Net Price
1135	.01	$0.75	$0.45
1135	.5	.80	.48

Oil-Impregnated, Oil-Filled TUBULAR VIBRATOR CONDENSERS

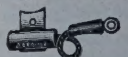


Type 1689—1600v D.C.W. Hermetically-sealed oil filled capacitors in metal tubes, with an outer cardboard tube as an insulating cover.

Cap. Mfd.	List Price	Net Price
.005	$0.85	$0.51
.006	.85	.51
.007	.85	.51
.008	.85	.51
.01	.85	.51
.02	.85	.51
.05	.95	.57

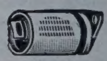
GAS GAUGE FILTER CONDENSER

Type 1143-G



Cap. Mfd.	List Price	Net Price
.5	$0.60	$0.36

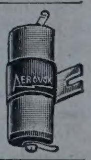
"HASH" CONDENSER



Type 1122

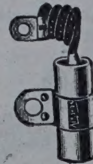
Cap. Mfd.	List Price	Net Price
.05	$0.50	$0.30

DOME LIGHT FILTER CONDENSER



Type 1180

List Price	Net Price
$1.00	$0.60



OIL GAUGE FILTER CONDENSER

Type 1142-0

Cap. Mfd.	List Price	Net Price
.25	$0.60	$0.36

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

AEROVOX Paper Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

TUBULAR PAPER CAPACITORS

Type 84

Aerovox cartridge capacitors are especially desirable for use where high grade units are required at low cost. They are compact, non-inductively wound and sealed in **wax impregnated paper tubes with wax filled ends** for longer life and protection against moisture.

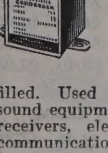
Types and D.C.W. Voltages

Cap. Mfds.	Type 484 400v. List Price	Type 484 400v. Net Price	Type 684 600v. List Price	Type 684 600v. Net Price
.001	$0.20	$0.12	$0.20	$0.12
.002	.20	.12	.20	.12
.003	.20	.12	.20	.12
.004	.20	.12	.20	.12
.005	.20	.12	.20	.12
.006	.20	.12	.20	.12
.0075	.20	.12	.20	.12
.01	.20	.12	.20	.12
.015	.20	.12	.20	.12
.02	.20	.12	.20	.12
.025	.20	.12	.25	.15
.03	.20	.12	.25	.15
.05	.20	.12	.25	.15
.06	.25	.15	.30	.18
.075	.25	.15	.30	.18
.1	.25	.15	.30	.18
.15	.25	.15	.35	.21
.2	.30	.18	.40	.24
.25	.30	.18	.45	.27
.5	.45	.27	.60	.36
1.0	.60	.36	.75	.45

Cap. Mfds.	Type 1084 1000v. List Price	Type 1084 1000v. Net Price	Type 1684 1600v. List Price	Type 1684 1600v. Net Price
.001	$0.25	$0.15	$0.45	$0.27
.002	.25	.15	.45	.27
.003	.25	.15	.45	.27
.004	.25	.15	.45	.27
.005	.25	.15	.45	.27
.006	.25	.15	.45	.27
.0075	.40	.24	.45	.27
.01	.40	.24	.45	.27
.015	.40	.24	.45	.27
.02	.40	.24	.45	.27
.03	.45	.27	.50	.30
.05	.45	.27	.55	.33
.06	.50	.30	.60	.36
.075	.55	.33	.65	.39
.1	.60	.36	.70	.42
.15	.70	.42		
.2	.75	.45		
.25	.85	.51		

METAL-CASED Ultra-Compact PAPER CAPACITORS

Type 80



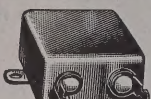
Ultra-compact heavy-duty capacitors. Wax-impregnated, wax-filled. Used as replacements in sound equipment, high power radio receivers, electronic devices, and communication equipment. Housed in a rust-proof container with soldering terminals conveniently located.

Type 1080—1000v. D.C. Work.

Cap. Mfds.	Size-Ins. D. W. L.	List Price	Net Price
.5	11/16 x 1¼ x 2	$1.80	$1.08
1.0	1¼ x 1¼ x 2	2.50	1.50
2 0	2½ x 1¼ x 2	3.85	2.31
4.0	2⅜ x 2 7/16 x 2	6.20	3.72

DRAWN-CASE OIL FILLED "HYVOL" CAPACITORS

TYPE 30



For applications requiring a compact superior-grade oil-impregnated, oil-filled capacitor. Non-inductive paper sections encased in a one-piece drawn metal case with soldered bottom plate for hermetic seal. Absolutely immersion-proof terminal assembly. Meets severe operating conditions encountered in aircraft, police, broadcast, p.a., and other types of communications equipment.

TYPE 430-400 V.D.C.W.

Cap. Mfds.	L x W x H	List Price	Net Price
.05	1¾x1 x ¾	$2.00	$1.20
.1	1¾x1 x ¾	2.05	1.23
.25	1¾x1 x 13/16	2.10	1.26
.5	1¾x1 x ⅞	2.30	1.38
.75	2 1/16x1¼x ¾	2.50	1.50
1.0	2 x1¾x 13/16	2.55	1.53
2.0	2 x2 x1⅛	3.30	1.98
.05-.05	1¾x1 x 13/16	2.45	1.47
.1-.1	1¾x1 x 13/16	2.55	1.53
.25-.25	1¾x1¼x ⅞	2.60	1.56
.5-.5	2 x1¾x 13/16	2.95	1.77
1.0-1.0	2 x2 x1⅛	3.60	2.16
.05-.05-.05	1¾x1 x 13/16	2.75	1.65
.1-.1-.1	1¾x1 x ⅞	2.90	1.74
.25-.25-.25	2 x1¾x ⅞	3.25	1.95

Type 630—600v D.C. Working

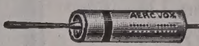
Cap. Mfds.	L x W x H	List Price	Net Price
.05	1¾x1 x ¾	$2.05	$1.23
.1	1¾x1 x ¾	2.10	1.26
.25	1¾x1 x 13/16	2.20	1.32
.5	1¾x1 x ⅞	2.35	1.41
.75	2 1/16x1¼x ⅞	2.55	1.53
1.0	2 x1¾x ⅞	2.70	1.62
2.0	2 x2 x1 3/16	3.60	1.96
.05-.05	1¾x1 x 13/16	2.60	1.56
.1-.1	1¾x1 x 13/16	2.65	1.59
.25-.25	1¾x1¼x ⅞	2.70	1.62
.5-.5	2 x1¾x ⅞	3.10	1.86
1.0-1.0	2 x2 x1 3/16	3.75	2.25
.05-.05-.05	1¾x1 x 13/16	2.90	1.74
.1-.1-.1	1¾x1 x 15/16	3.00	1.80
.25-.25-.25	2 x1¾x ⅞	3.35	2.01

Type 1030—1000v D.C. Working

Cap. Mfds.	L x W x H	List Price	Net Price
.05	1¾x1 x ¾	$2.10	$1.26
.1	1¾x1 x ¾	2.25	1.35
.25	1¾x1 x 13/16	2.30	1.38
.5	2 1/16x1¼x ⅞	2.50	1.50
.75	2 x1¾x ⅞	3.00	1.80
1.0	2 x1¾x 1	3.30	1.98
.05-.05	1¾x1 x 13/16	2.60	1.56
.1-.1	1¾x1 x 13/16	2.80	1.68
.25-.25	2 1/16x1¼x ⅞	3.00	1.80
.5-.5	2 x1¾x 1	3.90	2.34
.05-.05-.05	1¾x1 x 13/16	3.00	1.80
.1-.1-.1	1¾x1¼x ⅞	3.30	1.98
.25-.25-.25	2 x2 x1	4.20	2.52

MIDGET TUBULAR METAL-CASED "HYVOL" CAPACITORS

Type 38



These units are hermetically-sealed and are exceptionally compact. Originally designed as alternates for mica capacitors but have since become a standard item in the Aerovox oil-filled capacitor line. Not only used as replacements in existing equipment, but are especially suitable for newly-designed equipment, particularly where allowable weight of the finished assembly and allotted space is at a minimum. Despite unusual ultra-small size for oil-impregnated, oil-filled capacitors, constructional and electrical characteristics meet many of the exacting conditions to which molded-in-bakelite mica capacitors are normally subjected. Type 38 units are normally supplied with case insulated, and are provided with outer insulating tube.

Type 338T—300v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.001	5/16 x 1 3/16	$0.50	$0.30
.002	5/16 x 1 3/16	.50	.30
.003	5/16 x 1 3/16	.50	.30
.005	5/16 x 1 3/16	.50	.30
.006	5/16 x 1 3/16	.50	.30
.0075	5/16 x 1 3/16	.50	.30
.01	5/16 x 1 3/16	.50	.30

Type 538T—500v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.001	5/16 x 1 3/16	$0.55	$0.33
.002	5/16 x 1 3/16	.55	.33
.003	5/16 x 1 3/16	.55	.33
.005	5/16 x 1 3/16	.55	.33
.006	7/16 x 1 3/16	.55	.33
.0075	7/16 x 1 3/16	.55	.33
.01	7/16 x 1 3/16	.55	.33

Type 638T—600v D.C. Working

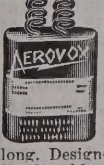
Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.001	7/16 x 1 3/16	$0.60	$0.36
.002	7/16 x 1 3/16	.60	.36
.003	7/16 x 1 3/16	.60	.36
.005	7/16 x 1 3/16	.60	.36
.006	7/16 x 1 3/16	.60	.36
.0075	7/16 x 1 3/16	.60	.36
.01	7/16 x 1 3/16	.60	.36

Type 838T—800v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.001	7/16 x 1 3/16	$0.65	$0.39
.002	7/16 x 1 3/16	.65	.39
.003	7/16 x 1 3/16	.65	.39
.005	7/16 x 1 3/16	.65	.39

UNCASED PAPER CAPACITORS

Type UC



Non-inductively wound high grade uncased sections, neatly shaped and wrapped in black varnished paper with ends sealed with pitch and provided with insulated wire leads, eight inches long. Designed for replacement use in filter block repair work.

TYPE UC200-200 V.D.C.W.

Cap. Mfd.	Size-Ins. L. x W. x D.	List Price	Net Price
.1	2 x ¾ x ¼	$0.40	$0.24
.25	2 x 1 x 5/16	.40	.24
.5	2 x 1 x ½	.50	.30
1.0	2 x 1⅜ x 11/16	.75	.45

TYPE UC400-400 V.D.C.W.

Cap. Mfd.	Size-Ins. L. x W. x D.	List Price	Net Price
.1	2 x ⅞ x ¼	$0.45	$0.27
.25	2 x 1 x ⅜	.50	.30
.5	2 x 1 5/16 x 9/16	.60	.36
1.0	2 x 1⅞ x 11/16	.90	.54
2.0	3¼ x 1⅞ x ⅞	1.40	.84
4.0	4⅜ x 1⅞ x 1⅛	2.40	1.44

TYPE UC600-600 V.D.C.W.

Cap. Mfd.	Size-Ins. L. x W. x D.	List Price	Net Price
.25	2 x 1⅛ x 9/16	$0.60	$0.36
.5	2 x 1 9/16 x 13/16	.75	.45
1.0	3¼ x 1⅞ x 11/16	1.10	.66
2.0	3¼ x 1⅞ x 1 5/16	1.65	.99
4.0	4⅜ x 1⅞ x 1⅞	3.25	1.95

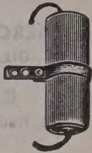
TYPE UC1000-1000 V.D.C.W.

Cap. Mfd.	Size-Ins. L. x W. x D.	List Price	Net Price
.5	4⅜ x 1⅞ x 11/16	$1.20	$0.72
1.0	4⅜ x 1⅞ x 1	1.80	1.08
2.0	4⅜ x 2¼ x 1⅞	3.00	1.80

TUBULAR CAPACITORS

OIL-IMPREGNATED OIL-FILLED

Type 89



Immersion-proof, oil-impregnated, oil-filled units in handy, space-saving tubular form. Ideal for use in vibrator applications, coupling and by-pass functions in transmitters, high-voltage amplifiers, in r.f. by-pass circuits, interference eliminators for motors and generators, and in test equipment. Fully sealed against oil leakage or moisture penetration. Case is insulated, not connected to the capacitor section. Mounting strap and outer insulating tube are supplied.

Types and D.C.W. Voltages

Cap. Mfd.	489-400 List Price	489-400 Net Price	689-600 List Price	689-600 Net Price
.015	.70b	.42	.75c	.45
.02	.70b	.42	.75c	.45
.03	.75c	.45	.80c	.48
.04	.75c	.45	.80c	.48
.05	.75c	.45	.80d	.48
.075	.80d	.48	.85f	.51
.1	.80d	.48	.90f	.54
.25	.90f	.54	1.05h	.63
.5	1.00k	.60		

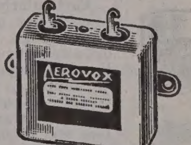
Cap. Mfd.	1089-1000 List Price	1089-1000 Net Price	2089-2000 List Price	2089-2000 Net Price
.006	$0.80a	$0.48	$0.90e	$0.54
.0075	.80b	.48	.90e	.54
.01	.80c	.48	.90e	.54
.015	.80c	.48	.90f	.54
.02	.80c	.48	.90g	.54
.03	.85d	.51	.95g	.57
.04	.85d	.51	.95g	.57
.05	.90d	.54	1.00g	.60
.075	.95f	.57		
.1	1.00f	.60		

Sizes—Type 89

a—½ x 1 7/16
b—½ x 1 11/16
c—11/16 x 1 11/16
d—11/16 x 2 3/16
e—13/16 x 1 11/16
f—13/16 x 2 3/16
g—13/16 x 2 9/16
h—15/16 x 2 3/16
k—1 1/16 x 2 3/16

STAMPED METAL CASE PAPER CAPACITORS

Types 60 and 61



200 Volts D.C. Working

Type	Cap. Mfds.	List Price	Net Price
260	.05	$0.60	$0.36
260	.1	.70	.42
260	.25	.85	.51
260	.5	1.00	.60
260	.1-.1	.90	.54
260	.25-.25	1.15	.69
260	.1-.1-.1	1.20	.72
261	1.0	1.30	.74
261	.5-.5	1.40	.88
261	.25- 25-.25	1.50	.90

400 Volts D.C. Working

Type	Cap. Mfds.	List Price	Net Price
460	.05	$0.70	$0.42
460	.1	.80	.48
460	.25	.90	.54
460	.5	1.15	.69
460	.1-.1	1.00	.60
460	.1-.1-.1	1.30	.78
461	.25	.90	.54
461	1.0	1.50	.90
461	.25-.25	1.20	.72
461	.5-.5	1.50	.90
461	.25-.25-.25	1.60	.96

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AEROVOX *Paper Capacitors*

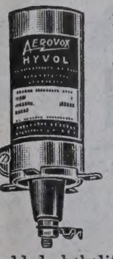
IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Round Aluminum Cans
Type 05

Convenient round can, provided with ring mounting. High-voltage pillar terminals. Hermetically sealed in leak-proof containers. Very conservative ratings for continuous operation.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
Type 605-600.v D.C.W.			
1	2 x 2¾	$3.00	$1.80
2	2 x 2¾	3.90	2.34
4	2 x 3¾	5.40	3.24
Type 1005-1000v. D.C.W.			
1	2 x 3¼	$3.30	$1.98
2	2 x 4¼	4.50	2.70
4	2½ x 4¾	5.70	3.42
Type 1505-1500v. D.C.W.			
1	2 x 3¾	$4.20	$2.52
2	2 x 4¾	5.70	3.42
4	2½ x 4¾	7.20	4.32
Type 2005-2000v. D.C.W.			
1	2 x 4¾	$5.40	$3.24
2	2 x 5¼	6.00	3.60
Type 2505-2500v. D.C.W.			
1	2½ x 4¾	$7.20	$4.32
2	2½ x 5¼	12.00	7.20
Type 3005-3000v. D.C.W.			
1	2½ x 4¾	$10.80	$6.48
2	3 x 5¼	13.20	7.92

AEROVOX "HYVOL"
VERTICAL-MOUNTING HIGH-VOLTAGE CAPACITORS
Type 14



Particularly applicable for use in high-voltage filter circuits such as cathode-ray tube power supplies, high-voltage by-pass circuits in transmitters and high-powered public address equipment. Type 14 units are made in the standard 1⅜″ diameter. Grounded can, with one-piece immersion - proof molded - bakelite pillar insulator which provides maximum spacing between live terminal and can. Mounting ring furnished for upright or inverted mounting.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
Type 2014-2000v. D.C.W.			
.01	1⅜ x 2¼	$4.75	$2.85
.05	1⅜ x 2¼	5.25	3.15
.1	1⅜ x 2¾	5.50	3.30
.25	1⅜ x 3¼	6.00	3.60
Type 3014-3000v. D.C.W.			
.01	1⅜ x 2¼	$5.55	$3.33
.05	1⅜ x 2¼	5.70	3.42
.1	1⅜ x 2¾	6.00	3.60
.25	1⅜ x 3¾	6.60	3.96

AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Round Aluminum Cans —Inverted Mounting
Type 10

This is an improved design, replacing the former single terminal type. This new design is physically interchangeable with the old. Ideal for crowded assemblies; a logical choice in filter circuits of power supplies, high-gain high-fidelity amplifiers, and small transmitters. Hermetically-sealed. Has one-piece molded bakelite terminal assembly. Both terminal lugs are insulated from container.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
Type 610-600v. D.C.W.			
2	1½ x 3½	$3.30	$1.98
4	1½ x 5¼	4.50	2.70
Type 1010-1000v. D.C.W.			
1	1½ x 2⅞	$3.00	$1.80
2	1½ x 4½	3.90	2.34
Type 1510-1500v. D.C.W.			
.5	1½ x 2⅞	$3.60	$2.17
1	1½ x 4½	3.90	2.34

AEROVOX "HYVOL"
VERTICAL-MOUNTING HIGH-VOLTAGE CAPACITORS OIL-IMPREGNATED OIL-FILLED
Type 12

This is an immersion - proof capacitor designed to meet high - voltage operating requirements. Suitable for such high - voltage circuit applications as in television, cathode-ray tube power supplies, high-voltage rectifiers, or, as a high - voltage by - pass capacitor. Recommended where long leakage path between terminals is required. Barrier in bakelite top increases insulation and creepage path between terminals. For certain applications, the ceramic insulators may be removed if desired. Supplied with adjustable mounting ring for vertical mounting.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
Type 2012-2000v. D.C.W.			
1.0	2¼ x 3¾	$6.00	$3.60
2.0	2¼ x 5¼	10.20	6.12
Type 3012-3000v. D.C.W.			
.05	2¼ x 2¼	$6.80	$4.08
.1	2¼ x 2¼	7.50	4.50
.25	2¼ x 3¼	9.00	5.40
.5	2¼ x 3¾	10.80	6.48
1.0	2¼ x 5¼	14.40	8.64
Type 4012-4000v. D.C.W.			
.05	2¼ x 2¾	$9.00	$5.40
.1	2¼ x 3¾	9.90	5.94
.25	2¼ x 5¼	10.80	6.48
Type 6012-6000v. D.C.W.			
.03	2¼ x 2¾	$9.60	$5.76
.05	2¼ x 3¾	10.80	6.48
.1	2¼ x 4¾	12.00	7.20
Type 7512-7500v. D.C.W.			
.01	2¼ x 3¼	$9.00	$5.40
.02	2¼ x 3¼	9.90	5.94
.03	2¼ x 3¾	10.80	6.48
.05	2¼ x 4¼	12.00	7.20
.1	2¼ x 4¾	15.00	9.00

AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Rectangular Metal Cans
Type 09

Type 09
(Basic)

Type 09MB
(Mounting Bracket)

Type 09MS
(Strap Mounting)

Hermetically-sealed in sturdy can, leakproof and seepageproof. High tension pillar terminals fitted with locknuts and soldering lugs. Exceptionally compact dimensions for given capacity, working voltage—and safety factor due to use of "Hyvol." Intended for heavy-duty continuous service in transmitters, amplifiers, etc. Type MB bracket is normally supplied as standard equipment, unless otherwise specified, on all units having base sizes other than 3¾″ x 3³⁄₁₆″ and 3¾″ x 4⁹⁄₁₆″. Type MS is normally supplied as standard with these latter base sizes.

Cap. Mfds.	Size-Ins. L. W. D.	List Price	Net Price
Type 609-600v. D.C.W.			
.5	2⅛x1¹³⁄₁₆x1¹⁄₁₆	$3.30	$1.98
1.0	2⅛x1¹³⁄₁₆x1¹⁄₁₆	4.20	2.52
2.0	2⅞x1¹³⁄₁₆x1¹⁄₁₆	5.10	3.06
3.0	3⅞x1¹³⁄₁₆x1¹⁄₁₆	6.00	3.60
4.0	3¼x2½x1³⁄₁₆	6.60	3.96
5.0	4¾x1¹³⁄₁₆x1¹⁄₁₆	7.50	4.50
6.0	4⅝x2½x1³⁄₁₆	8.10	4.86
8.0	3⅞x3¾x1¼	9.60	5.76
10.0	4⅝x3¾x1¼	10.80	6.48
12.0	4¾x3¾x1½	12.00	7.20
15.0	4¾x3¾x1¾	13.25	7.95
Type 1009-1000v. D.C.W.			
.1	2 x1¹³⁄₁₆x1¹⁄₁₆	$3.00	$1.80
.25	2⅛x1¹³⁄₁₆x1¹⁄₁₆	3.30	1.98
.5	2⅛x1¹³⁄₁₆x1¹⁄₁₆	3.60	2.17
1.0	2⅛x1¹³⁄₁₆x1¹⁄₁₆	4.50	2.70
2.0	3⅞x1¹³⁄₁₆x1¹⁄₁₆	6.00	3.60
3.0	3½x2½x1³⁄₁₆	6.80	4.08
4.0	4⅝x2½x1³⁄₁₆	7.50	4.50
5.0	3⅞x3¾x1¼	9.00	5.40
6.0	4¾x3¾x1¼	9.90	5.94
8.0	4¾x3¾x1¼	10.80	6.48
10.0	4⅝x3¾x1¾	12.00	7.20
12.0	3⅞x3¾x2¼	13.20	7.92
15.0	4¾x3¾x2½	14.40	8.64
Type 1509-1500v. D.C.W.			
.5	2⅞x1¹³⁄₁₆x1¹⁄₁₆	$4.80	$2.88
1.0	4 x1¹³⁄₁₆x1¹⁄₁₆	5.40	3.24
2.0	4⅛x2½x1³⁄₁₆	7.50	4.50
3.0	4¾x2½x1³⁄₁₆	9.00	5.40
4.0	4⅝x3¾x1¼	10.20	6.12
5.0	4¾x3¾x1¾	10.80	6.48
6.0	4¾x3¾x1¾	12.30	7.38
8.0	4¾x3¾x2½	15.00	9.00
10.0	4¾x3¾x3³⁄₁₆	18.00	10.80
12.0	4¾x3¾x3³⁄₁₆	19.80	11.88
15.0	4¾x3¾x4⁹⁄₁₆	21.60	12.96
Type 2009-2000v. D.C.W.			
.1	2 x1¹³⁄₁₆x1¹⁄₁₆	4.80	2.88
.25	2⅛x1¹³⁄₁₆x1¹⁄₁₆	5.10	3 06
.5	2⅞x1¹³⁄₁₆x1¹⁄₁₆	5.40	3.24
1.0	3⅜x2½x1³⁄₁₆	6.60	3.96
2.0	4 x3¾x1¼	7.80	4.68
3.0	4¾x3¾x1¼	9.60	5.76
4.0	3⅞x3¾x2¼	10.80	6.48
5.0	4¾x3¾x2¼	12.00	7.20
6.0	4⅝x3¾x3³⁄₁₆	14.10	8.46
8.0	4⅝x3¾x3³⁄₁₆	18.00	10.80
10.0	4¾x3¾x4⁹⁄₁₆	22.20	13.32
12.0	5⅜x3¾x4⁹⁄₁₆	24.00	14.40
15.0	6½x3¾x4⁹⁄₁₆	29.00	17.40

Cap. Mfds.	Size-Ins. L. W. D.	List Price	Net Price
Type 2509-2500v. D.C.W.			
.5	3½x3¾x1¼	$8.40	$5.04
1.0	3¼x3¾x1¾	9.60	5.76
2.0	4⅝x3¾x1¾	15.60	9.36
4.0	4 x3¾x4⁹⁄₁₆	21.60	12.96
10.0	6⅜x3¾x4⁹⁄₁₆	54.00	32.40
Type 3009-3000v. D.C.W.			
.1	2 x2½x1³⁄₁₆	$10.20	$6.12
.25	2½x2½x1³⁄₁₆	10.80	6.48
.5	3⅞x2½x1³⁄₁₆	12.00	7.20
1.0	3⅞x3¾x2¼	14.40	8.64
2.0	4⅛x3¾x3³⁄₁₆	18.00	10.80
4.0	4¾x3¾x4⁹⁄₁₆	26.40	15.84
Type 4009-4000v. D.C.W.			
.1	2¾x3¾x2¼	$18.00	$10.80
.25	2¾x3¾x2¼	19.20	11.52
.5	3⅞x3¾x2¼	21.60	12.96
1.0	5⅛x3¾x2¼	26.40	15.84
2.0	5⅛x3¾x4⁹⁄₁₆	33.60	20.16
4.0	8 x3¾x4⁹⁄₁₆	48.00	28.80
Type 5009-5000v. D.C.W.			
.1	2¾x3¾x2¼	19.25	11.55
.25	3⅜x3¾x2¼	21.75	13.05
.5	4¼x3¾x2¼	24.00	14.40
1.0	4⅜x3¾x4⁹⁄₁₆	30.00	18.00
2.0	6 x3¾x4⁹⁄₁₆	38.40	23.04
Type 6009-6000v. D.C.W.			
.1	3⅜x3¾x2¼	24.00	14.40
.25	4⅝x3¾x2¼	30.00	18.00
.5	4⅜x3¾x4⁹⁄₁₆	34.00	20.40
1.0	8 x3¾x4⁹⁄₁₆	60.00	36.00
Type 7509-7500v. D.C.W.			
.1	3⅞x3¾x2¼	34.00	18.00
.25	5⅛x3¾x2½	36.00	21.60
.5	5⅛x3¾x4⁹⁄₁₆	39.00	23.40

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

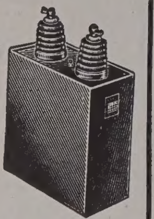
AEROVOX Paper Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

HIGH-VOLTAGE TRANSMITTER TYPE D.C. CAPACITORS

Type 20

6,000v. D.C. Work. to 50,000v. D.C. Work.



These capacitors meet the exacting requirements of radio transmitter service and other applications requiring high-voltage, heavy-duty, transmitter-type oil capacitors. Available in ratings from 6000 volts to 50,000 volts D.C. working. These are single-section or parallel-section capacitors. Type 20 units are critically checked to close standards of physical and electrical perfection. Capacitor sections consist of multi-layered capacitor tissues and high-purity aluminum foil, uniformly and accurately wound under critically-controlled tension, then vacuum-impregnated with Aerovox Hyvol to insure stability of full-rated capacitance, even at zero temperatures. Welded steel containers finished in non-corrosive, dark grey lacquer. Heavy-duty porcelain insulator assembly is cork-gasketed and pressure sealed to prevent leakage of oil or entrance of moisture at the terminals. Single-section units rated at 30 KV or less are normally supplied with capacitor section insulated from ground. Additional information on Type 20 units rated at 37,500 volts and 50,000 volts, as well as voltage-doubler units rated at 25,000 volts output is available on application.

All Type 20 units are built to special order—not carried in stock. Submit full application information when ordering.

Type 6020—6000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
2.0	11x 8x4	$108.00	$ 64.80
4.0	11x12x4	132.00	79.20
5.0	11x12x4	150.00	90.00
6.0	13x12x4	168.00	100.80
10.0	13x12x6	210.00	126.00

Type 7520—7500v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.5	11x 8x4	$ 60.00	$ 36.00
1.0	11x 8x4	78.00	46.80
2.0	11x 8x4	120.00	72.00
4.0	13x12x4	180.00	108.00
6.0	13x12x6	216.00	129.60

Type 10020—10,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
1.0	11x 8x4	$156.00	$ 93.60
2.0	11x12x4	198.00	118.80
4.0	13x12x6	240.00	144.00
5.0	13x12x6	264.00	158.40

Type 12520—12,500v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.5	11x 8x4	$132.00	$ 79.20
1.0	11x12x4	168.00	100.80
2.0	13x12x6	210.00	126.00
5.0	15x12x9½	396.00	237.60

Type 15020—15,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.25	11x 8x4	$126.00	$ 75.60
0.5	11x12x4	150.00	90.00
1.0	13x12x4	210.00	126.00
2.0	15x12x9½	276.00	165.60
3.0	15x12x9½	378.00	226.80

Type 20020—20,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.25	11x 8x4	$150.00	$ 90.00
0.5	11x12x4	192.00	117,20
1.0	13x12x6	258.00	154.80
1.5	15x12x9½	348.00	208.80
2.0	15x12x9½	414.00	248.40
4.0	15x14x16	726.00	435.60

Type 25020—25,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.2	11x12x4	$156.00	$ 93.60
0.25	11x12x4	210.00	126.00
0.5	13x12x6	228.00	136.80
1.0	15x12x9½	342.00	205.20

Type 37520—37,500v. D.C.W.

(Information supplied on application.)

Type 50020—50,000v. D.C.W.

(Information supplied on application.)

Type 12520 VD

25,000 Volts Output (12,500—12,500 Volts)—Dual Units

(Information supplied on application.)

COMPACT HERMETICALLY-SEALED OIL-IMPREGNATED, OIL-FILLED "HYVOL" CAPACITORS

Type 16T

(Terminals on Top)

Compact, oil-filled, hermetically-sealed units for use where least space and minimum weight are essential. Corrosion-proof metal container. Special immersion-proof terminals designed for equipment subjected to severe atmospheric and climatic conditions. Suitable for by-pass and filter applications in receivers and low-power transmitters.

Type 416T
400v. D.C. Working

Cap. Mfds.	H x W x D	List Price	Net Price
.01	1⅛x1$\frac{5}{16}$x$\frac{11}{16}$	$2.05	$1.23
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.10	1.26
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.25	1.35
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.30	1.38
.5	1$\frac{15}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.35	1.41
1.0	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.60	1.56

Type 616T
600v. D.C. Working

Cap. Mfds.	H x W x D	List Price	Net Price
.01	1⅛x1$\frac{5}{16}$x$\frac{11}{16}$	$2.10	$1.26
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.20	1.32
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.30	1.38
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.35	1.41
.5	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.40	1.44
1.0	2$\frac{9}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.70	1.62

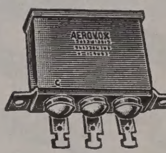
Type 1016T
1000v. D.C. Working

Cap. Mfds.	H x W x D	List Price	Net Price
.01	1¼x1$\frac{5}{16}$x$\frac{11}{16}$	$2.20	$1.32
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.25	1.35
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.35	1.41
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.40	1.44
.5	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.60	1.56

COMPACT HERMETICALLY-SEALED OIL-IMPREGNATED, OIL-FILLED "HYVOL" CAPACITORS

Type 18B

(Terminals on Bottom)



Compact, oil-filled, hermetically-sealed units. Type 18 is smaller in height and depth than Type 16. However, greater width makes Type 18 adaptable for applications where small-sized dual- and triple-section capacitors with three terminals are required. Otherwise, similar to Type 16 with respect to construction and application.

Type 418B
500v. D.C. Working

Cap. Mfds.	H x W x D	List Price	Net Price
Single Section Units			
.05	1 x1¾x$\frac{9}{16}$	$2.25	$1.35
.1	1 x¾x$\frac{9}{16}$	2.35	1.41
.25	1½x1¾x$\frac{9}{16}$	2.40	1.44
.5	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	2.50	1.50
1.0	2 x1¾x$\frac{9}{16}$	2.75	1.65
Dual-Section Units			
.05-.05	1 x1¾x$\frac{9}{16}$	2.90	1.74
.1-.1	1¼x1¾x$\frac{9}{16}$	2.95	1.77
.25-.25	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	3.10	1.86
.5-.5	2 x1¾x$\frac{9}{16}$	3.35	2.01
Triple-Section Units			
.05-.05-.05	1 x1¾x$\frac{9}{16}$	3.55	2.13
.1-.1-.1	1½x1¾x$\frac{9}{16}$	3.80	2.28
.25-.25-.25	2 x1¾x$\frac{9}{16}$	4.10	2.46

Type 618B
600v. D.C. Working

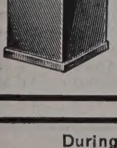
Cap. Mfds.	H x W x D	List Price	Net Price
Single Section Units			
.05	1 x1¾x$\frac{9}{16}$	$2.30	$1.38
.1	1 x1¾x$\frac{9}{16}$	2.40	1.44
.25	1½x1¾x$\frac{9}{16}$	2.50	1.50
.5	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	2.65	1.59
1.0	2½x1¾x$\frac{9}{16}$	2.90	1.74
Dual-Section Units			
.05-.05	1 x1¾x$\frac{9}{16}$	3.00	1.80
.1-.1	1½x1¾x$\frac{9}{16}$	3.10	1.86
.25-.25	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	3.30	1.98
.5-.5	2¾x1¾x$\frac{9}{16}$	3.55	2.13
Triple-Section Units			
.05-.05-.05	1⅛x1¾x$\frac{9}{16}$	3.60	2.16
.1-.1-.1	1½x1¾x$\frac{9}{16}$	3.90	2.34
.25-.25-.25	2⅞x1¾x$\frac{9}{16}$	4.20	2.52

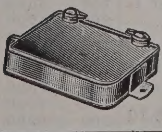
Type 1018B
1000v. D.C. Working

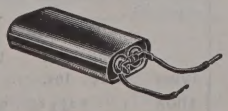
Cap. Mfds.	H x W x D	List Price	Net Price
Single Section Units			
.05	1 x1¾x$\frac{9}{16}$	$2.40	$1.44
.1	1 x1¾x$\frac{9}{16}$	2.50	1.50
.25	1¾x1¾x$\frac{9}{16}$	2.60	1.56
.5	1$\frac{13}{16}$x1¾x$\frac{9}{16}$	2.75	1.65
Dual-Section Units			
.05-.05	1⅛x1¾x$\frac{9}{16}$	3.30	1.98
.1-.1	1½x1¾x$\frac{9}{16}$	3.50	2.10
.25-.25	1$\frac{13}{16}$x1¾x$\frac{9}{16}$	3.60	2.16
Triple-Section Units			
.05-.05-.05	1⅜x1¾x$\frac{9}{16}$	3.90	2.34
.1-.1-.1	1⅝x1¾x$\frac{9}{16}$	4.20	2.52

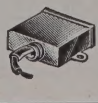
CUSTOM-BUILT PAPER CAPACITORS TO MEET YOUR SPECIAL NEEDS —

If your paper capacitor needs are most unusual, AEROVOX will work with you in designing and producing special types. With many basic types to draw upon—a wide choice of containers, terminals, mountings, sizes, etc.—we can quickly and economically produce out-of-the-ordinary capacitors to meet those extraordinary requirements. Address your inquiry to Aerovox Engineering Department, New Bedford, Mass.









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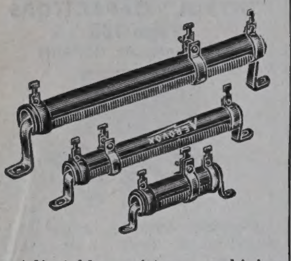
AEROVOX Vitreous-Enameled and Carbon RESISTORS

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

"SLIDEOHM" Wire-Wound Vitreous-Enameled ADJUSTABLE RESISTORS



Adjustable resistors combining adjustment to any resistance value within unit's range, with positive, permanent, non-fluctuating qualities of wire-wound resistor. Each Slideohm Resistor is provided with horizontal mounting brackets and one adjustable contact slider.

Type 952—25 Watts

Size ⅝ x 2 inches

Ranges	List	Net
1-5000	$0.95	$0.57
6000-10,000	1.10	.66

Extra Slider Bands–10c ea., Net 6c

Type 954—50 Watts

Size ¾ x 4½ inches

Ranges	List	Net
5-5000	$1.50	$0.90
6000-25,000	1.65	.99
30,000-50,000	1.90	1.14

Extra Slider Bands–10c ea., Net 6c

Type 956—75 Watts

Size ¾ x 6½ inches

Ranges	List	Net
5-5000	$1.95	$1.17
6000-25,000	2.20	1.32
30,000-50,000	2.50	1.50
60,000-70,000	2.75	1.65

Extra Slider Bands–15c ea., Net 9c

Type 957—100 Watts

Size 1⅛ x 6½ inches

Ranges	List	Net
5-5000	$2.20	$1.32
6000-25,000	2.50	1.50
30,000-50,000	2.75	1.65
60,000-75,000	3.00	1.80

Extra Slider Bands–15c ea., Net 9c

Type 958—200 Watts

Size 1⅛ x 10½ inches

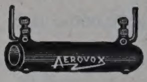
Ranges	List	Net
5-10,000	$3.30	$1.98
15,000-100,000	3.85	2.31
125,000-150,000	4.00	2.40

Extra Slider Bands–15c ea., Net 9c

Type Resis. Ohms	952 25 Watts Cur. M.A.	954 50 Watts Cur. M.A.	956 75 Watts Cur. M.A.	957 100 Watts Cur. M.A.	958 200 Watts Cur. M.A.
1	5000				
3	2880				
5	2230	3160	3870	4470	6320
10	1580	2240	2740	3160	4470
15	1290		2240	2580	
20	1115				
25	1000	1410	1730	2000	2825
50	710	1000	1220	1410	2000
75	580	815	1000	1150	
100	500	705	865	1000	1400
150	410	575			
200	355	500	610		
250	315	445	550	630	900
300	290	405	500		
400	250	350	430		
500	225	315	385	445	630
750	180	260	315	365	
800		250	305		
850	170				
1000	160	225	275	315	450
1250	140	200	245		
1500	130	180	225	260	365
2000	110	160	195	225	315
2250	105	150			
2500	100	140	173	200	280
3000	90	130	158	180	260
3500	85	120	146	170	240
4000	80	110	137	160	225
4500	74	105	129	150	210
5000	70	100	122	140	200
6000	65	91	111	130	
7000	57	85	103		
7500	53		100	115	165
8000	50	79	97	110	
8500	47				
9000	44	75	91		
10,000	40	71	87	100	140
12,000		64			
15,000		58	71	80	115
20,000		48	61	70	100
25,000		40	55	60	90
30,000		33	50	50	82
35,000			43	43	71
40,000		25	37	37	62
50,000		20	30	30	50
60,000			25	25	42
70,000			21	21	
75,000				20	33
100,000					25
125,000					20
150,000					16

"PYROHM JUNIOR" Wire-Wound Vitreous-Enameled FIXED RESISTORS

Types 931 and 933



Compact, genuine wire-wound units. Covered with vitreous-enamel. Highest quality materials used throughout. Correctly designed. Note these features:

1. Crack-proof refractory tubing for the support. Adequate heat dissipation.

2. Quality resistance wire precisely space wound under tension.

3. Copper terminal band clamped to tubing. Wire ends wrapped about raised ear and brazed to same.

4. Heavy vitreous-enamel coating for permanent seal against moisture, oxidation and mechanical damage.

5. Pig-tail of stiff wire 2 in. long soldered to terminal band for positive, non-breakable connection.

Type 931—10 Watts

Size—Ins. $\frac{5}{16}$ x 1¾

Ranges	List	Net
1-10,000	$0.45	$0.27
12,000-50,000	.50	.30

30,000 to 50,000 ohms, rated at 5 watts.

Stock Resistance Ranges

1
2
3
4
5
7.5
10
12
15
20
25
30
35
40
50
75
100
125
150
175
200
250
300
350
400
450
500
600
650
700
750
800
850
900
1000
1100
1200
1250
1400
1500
1750
2000
2500
2750
3000
3500
4000
4500
5000
5500
6000
7000
7500
8000
8500
9000
10,000
12,000
12,500
13,500
14,300
15,000
16,000
17,500
18,000
20,000
22,500
25,000
30,000
35,000
40,000
45,000
50,000

Type 933—20 Watts

Size—Ins. $\frac{5}{16}$ x 2

Ranges	List	Net
1-15,000	$0.70	$0.42
20,000-55,000	.85	.51
60,000-100,000	1.10	.66

25,000-100,000 ohms rated at 7 watts.

Stock Resistance Ranges

1
3
5
10
15
25
50
75
100
150
175
200
250
300
350
400
500
650
700
750
800
850
1000
1200
1250
1500
1750
1850
2000
2250
2400
2500
2750
3000
3500
4000
4500
5000
6000
7000
7500
8000
10,000
12,500
13,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
85,000
90,000
95,000
100,000

INSULATED MOLDED CARBON RESISTORS

Types 1097 and 1098

Small, noiseless, vibration-proof. Crack-proof molded casing around molded carbon resistance element. Tinned copper pig-tail leads 2 in. long. Resists humidity effects. Ideal for AVC circuits, high-gain amplifiers. RMA color - coded; stamped with resistance value. Precision tested. Standard tolerance 10%. These types may come thru for some time in slightly larger sizes until complete changeover is achieved.

Types	Rating Watt	Size Ins.	List ea.	Net ea.
1098	1	1¼x⅝	$.17	$.10
1097	½	$\frac{5}{32}$x⅜	.13	.08

Stock Resistance Ranges—Ohms

10
15
20
25
30
40
50
60
75
100
120
150
200
250
300
350
400
450
500
600
750
800
900
1000
1250
1500
1750
2000
2250
2500
3000
3500
4000
5000
6000
7000
7500
8000
9000
10000
11000
12000
12500
13000
14000
15000
17500
20000
22500
25000
30000
35000
40000
50000
60000
65000
70000
75000
100000
125000
150000
175000
200000
250000
300000
400000
500000
600000
750000
1 Meg.
1½ Meg.
2 Meg.
2½ Meg.
3 Meg.
4 Meg.
5 Meg.
6 Meg.
7 Meg.
10 Meg.
20 Meg.

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

AEROVOX CAPACITY and RESISTANCE *Bridge*

AEROVOX
CAPACITY AND RESISTANCE BRIDGE
Serial No.
AEROVOX CORPORATION
70 WASHINGTON STREET
BROOKLYN N.Y.
AEROVOX
METER RANGE
POLARIZING VOLTAGE
POWER FACTOR
BRIDGE RANGE

Manufacture discontinued for duration. An improved model will be made when materials are available or war situation allows.

● In the best interests of ALL users of condensers, AEROVOX engineers have developed this more critical checking means. Tests and readings, more than any claims and superlatives, best tell the *true* story of any and all condensers. Years of experience testing and checking condenser quality have been boiled down to provide this simple, portable, moderately-priced instrument. Do not confuse it with other bridges employing just an electric eye or neon lamps as indicators. Check the following features point by point with other type bridges, before you decide which one to buy. Remember, leading laboratories are using the AEROVOX Bridge, despite the fact that it is a serviceman's instrument, primarily.

only **$35^{75}**
Incl. Tubes

What It Does.

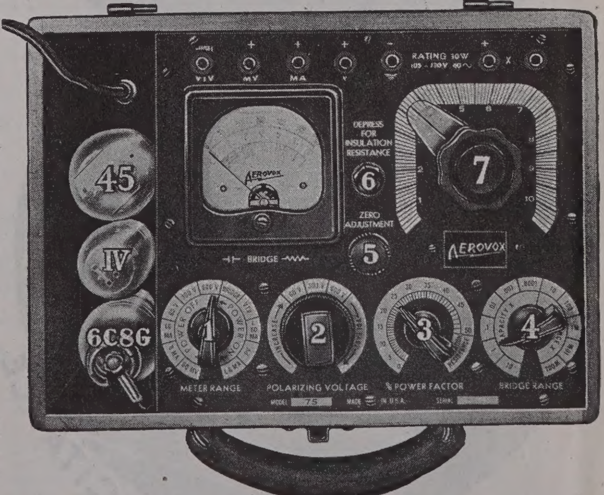
- **CAPACITY BRIDGE**
  Measures capacity, leakage, power factor, etc., of condensers under actual working conditions. 100 mmfd. (.0001) to 100 mfd. in 6 ranges.
- **RESISTANCE BRIDGE**
  Measures resistance values of resistors and electrical equipment and circuits. 10 ohms to 1 megohm.
- **INSULATION RESISTANCE**
  Measures this important factor in condensers and other devices. Meter calibrated directly in megohms. Reads up to 10,000 megohms at 500 volts.
- **VACUUM-TUBE VOLTMETER**
  Consists of amplifier stage and grid-leak detector. Measures minute values.
- **VOLTMETER**
  Available for voltage readings, 0-60 v., 0-300 v., 0-600 v., at 1000 ohms per volt. May be used externally.
- **MILLIVOLTMETER**
  Meter terminals brought out directly. Range, 60 mv. at 60 ohms, or 1 m.a. Can be used with external shunts.
- **MILLIAMMETER**
  Meter can be read in milliamperes. 0-6 ma., 0-60 ma. May be used externally.
- **VARIABLE POWER SUPPLY**
  Available directly at terminals. Supplying between 15 and 600 volts continuously variable over entire range.

Specifications . . .

● Measures with sufficient practical accuracy all essential properties of condensers *under actual working conditions*. In addition, all components and circuits are utilized for other measurements and tests. ● Simple to operate. Neat layout of knobs and dials. Concise instructions for each control etched directly on panel. General directions on inside cover. ● Binding posts insulated with XXX Bakelite and accommodate banana plugs, spade terminals, 'phone tips and bare wires. ● Tubes mounted on shelf alongside panel. Space alongside -45 tube accommodates power cord. Tubes: 6C8G, 1V, -45. ● Red gumwood cabinet. Natural finish. Lock-corner construction. Leather handle. Heavy catch ● Two slip hinges permit removing cover. Rubber feet and bumpers, top and bottom. A fine instrument. ● Each instrument precisely calibrated and thoroughly factory tested. Serially numbered and registered in original owner's name for full protection. Elaborate manual supplied with each instrument. ● Dimensions: 10¾ x 7¾ x 8 inches. Weight: 11 lbs.

1. **Meter Range Switch.** "Brains" of the bridge. Provides external milliammeter first three positions; external voltmeter next three, ranging from 60, 300 and 600 v. at 1000 ohms per volt. "Bridge" indicates power on and balancing position. Also provides vacuum-tube voltmeter and insulation resistance test at "VTV"; leakage test through X terminals at "L 60 MA" and "L 6 MA" positions; and polarizing voltage readings on proper meter range at "PV" position.
2. **Polarizing Voltage Control.** Inner knob serves as transformer tap switch. Outer knob is vernier control indicating continuously variable voltage 15 to 600 volts in 3 steps. Voltmeter automatically switched to proper range 0-60, 0-300, 0-600. Variable voltage available between terminals X and Ground for meter calibration, load tests, amplifiers, etc.
3. **Power Factor Control and Switch** for insulation resistance test.
4. **Bridge Range Control** for reading capacity: .0001-.001 mfd.; .001-.01 mfd.; .01-.1 mfd.; .1-1.0 mfd.; 1.0-10 mfd.; 10-100 mfd. Multiplying factor for both capacity and resistance indicated on face of control.
5. **Zero Adjustment** for vacuum tube voltmeter and bridge detector.
6. **Push Button** for insulation resistance test.
7. **Main Dial,** linear calibration, for capacity and resistance readings.

Note the multiplicity of functions which this versatile instrument performs. High-grade meter movement is used in place of magic eyes and neon lamps generally found in bridges priced for the service trade. Resistors, tubes and other components are likewise of precision grade for accuracy first and last.

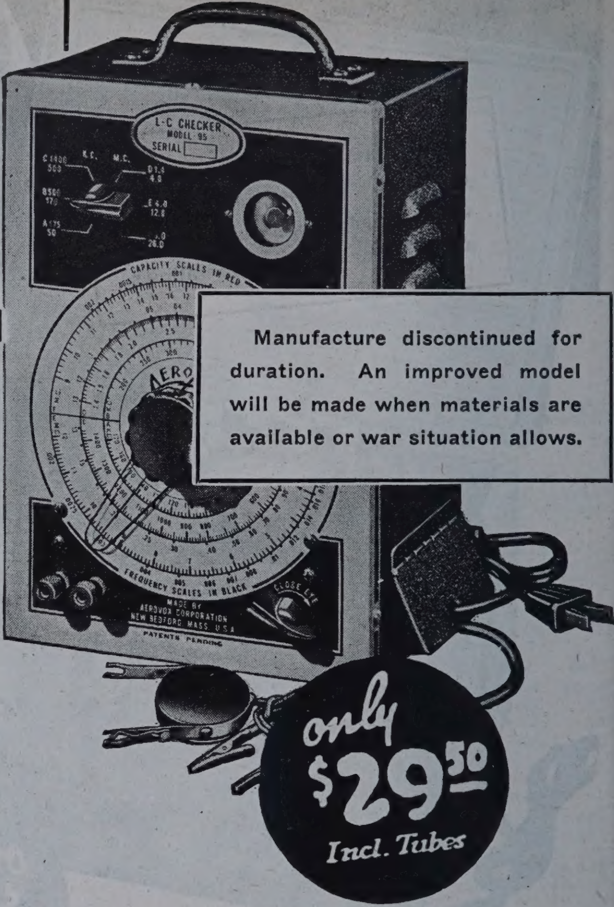


BRIDGE MANUAL: Covers theory and practice of all types of bridges. Covers all measurements and tests. Simply invaluable to radio and electrical worker. Supplied with Bridge. Available separately at 50c net.

AEROVOX

L-C CHECKER

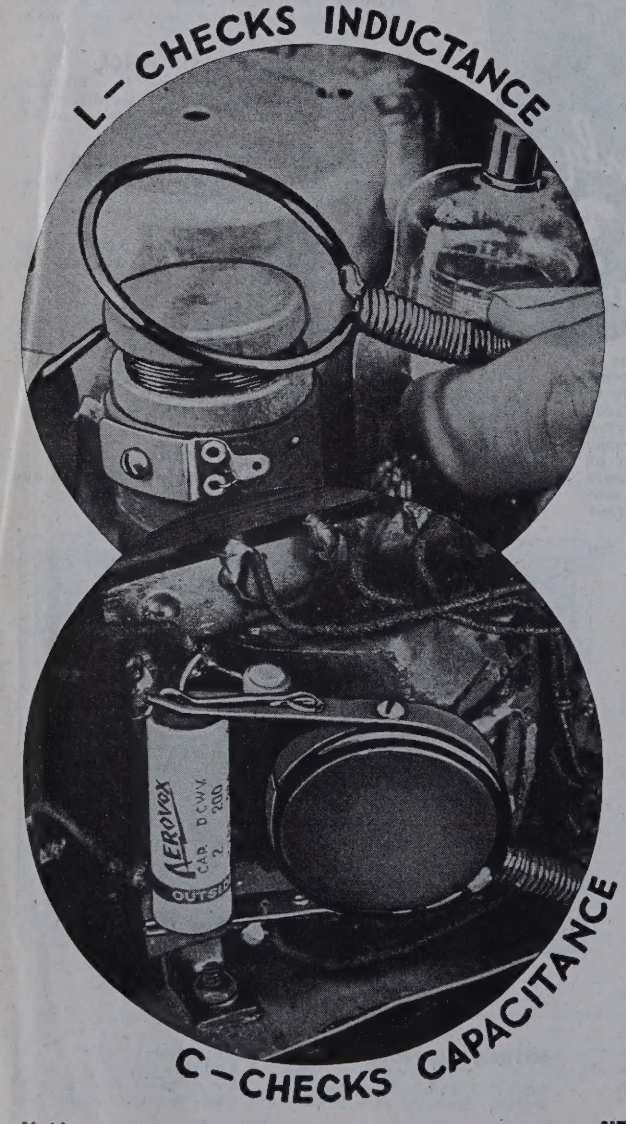
Model 95



Manufacture discontinued for duration. An improved model will be made when materials are available or war situation allows.

● Designed to test condensers and inductances in the radio-frequency range, under conditions that simulate actual working conditions. Determines effectiveness of capacity or inductance while actually connected in its circuit. Under such conditions the efficiency of testing is greatly increased. In addition to testing radio components singly, it is possible to test combinations of inductance (L) and capacitance (C), thereby determining the resonant frequency of combinations and, by such means, the operating effectiveness of the circuit. Also, this instrument can be employed to adjust circuit or systems to proper operating efficiency.

Unique, up-to-the-minute, simple, inexpensive, the L-C Checker is truly indispensable to the serious radio worker.



What It Checks . . .

- √ Capacity of condensers at radio frequencies without removing them from circuit.
- √ Alignment of r.f. circuits. Tracking of super-het. oscillator.
- √ Alignment of both broad and narrow band u.f. amplifiers.
- √ Tuning of wave traps and of image-rejection circuits; frequency ranges of receivers; frequency ranges of signal generators; calibration of wave meters.
- √ Identifying harmonics of frequency standard in precision frequency calibration of radio equipment.
- √ Natural resonant points of r.f. chokes making sure they are beyond operating range.
- √ Tracing resonant absorption trouble in "all-wave" receiver circuits—locating dead spots, etc.
- √ Locating resonant points in shorted windings (unused coils in multi-range oscillators, etc.).
- √ Locating resonant frequency of r.f. coupling chokes, making sure of placement to secure enough gain balance over tuning range of r.f. stage.
- √ Checking natural period of antennae and transmission lines, to have resonant peaks at certain frequencies.
- √ Checking quartz crystals for frequency, false frequency, operation at harmonics, and for activity.
- √ Checking FM of i.f. transformers.
- √ Checking alignment of FM of i.f. channels.
- √ Checking many other functions when used with auxiliary equipment.

Specifications . . .

General: Completely self-contained. Sturdy steel case. Crackle-finished baked enamel. Handsome front panel. Side compartment holds power cord, test leads, coupling link. **Operation:** 115-volt 60-cycle A.C. Will operate on D.C. and frequencies other than specified. **Frequency range:** Oscillator has six coil ranges, selected by panel switch—60-170, 170-490, 490-1500 kc.; and 1.5-4.6, 4.5-15, and 13-26 mc. **Indicator:** Type 6E5 magic eye, indicating energy in oscillator circuit by widening of shadow angle. Very critical. **Tube Complement:** 6J5G, 6E5, 25Z5, VR105. **Accuracy:** Checks capacitance and inductance values well within 10% depending upon conditions. Indicates frequencies within 1% under satisfactory conditions. Dimensions: 10½ x 7½ x 5½ in. Weight: 6 lbs. Fully guaranteed. Serial numbered and registered in original buyer's name. Instruction manual included.

L-C CHECKER MODEL 95

Complete, including tubes, power cord, coupling unit and capacity clip (shown at left) and spring clip leads, together with explicit instructions on how to use instrument for widest variety of tests and checks.

Dealer's-Serviceman's Net Cost. . $29.50

AEROVOX
MOTOR-STARTING
CAPACITOR SELECTOR
AND
EMERGENCY CAPACITORS

FIRST AID FOR THAT AILING CAPACITOR-START TYPE REFRIGERATOR MOTOR

Manufacture discontinued for duration. An improved model will be made when materials are available or war situation allows.

Refrigerator servicing is necessarily a rush job. Perishable food is at stake; more important still, the family's health. So if you're servicing electric refrigerators, by all means get them going promptly. Nine times out of ten, the trouble is a wornout capacitor. And here's the first-aid treatment:

WHAT CAPACITOR DO YOU NEED?

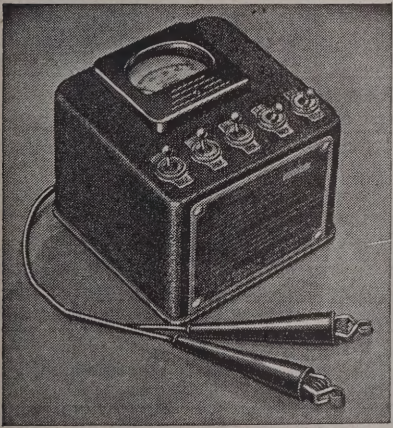
By referring to the motor name-plate and then to AEROVOX listings, you can readily determine what exact-duplicate capacitor is required. But—time is precious. Every minute counts. You may not have time to run down to the jobber's and pick up the required replacement. What to do?

USE THE CAPACITOR SELECTOR

Simple enough. Use the AEROVOX Capacitor Selector. Merely connect its clips in place of defunct capacitor. Try the various toggle switches starting with the 65 mfd. first. Note that each successive toggle throws in 17.5 mfd. more, for a wide range of capacities to 152½ mfd. Watch that the voltmeter reading doesn't exceed 138 volts. When adequate starting torque is obtained in less than three seconds, merely total the capacity from the "on" switches. That's the correct capacity required. Simple enough!

CLIP ON AN EMERGENCY CAPACITOR

Now, having determined required capacity with the Selector, simply take an AEROVOX Emergency Capacitor and make up the necessary capacity by plugging in the respective colored leads and plugs into the grouping connector, as per directions on the Emergency Capacitor. With the proper capacity now made up, simply clip the rubber-sleeved connectors in place of the discarded capacitor and leave the Emergency unit, with its grouping connector, inside the refrigerator motor compartment. The motor will now operate normally. You have safeguarded that family's food—and health.



FINALLY — INSTALL PERMANENT UNIT

But don't stop here. The Emergency Capacitor is not for permanent service. Such a unit necessarily costs more than an exact-duplicate unit. So at your convenience, pick up the right replacement at your AEROVOX jobber, and install it permanently in place of the Emergency unit. Thus you have our up-to-the-minute First Aid treatment for sick electric refrigerators. Likewise the means of gaining an outstanding reputation as the electric refrigerator serviceman who "gets 'em started in a jiffy."

These two aids . . . the Emergency Capacitor and the Capacitor Selector . . . permit prompt servicing of capacitor-type refrigerator motors. There's no guessing, fussing, stalling. You make the emergency replacement immediately, and install permanent replacement at your convenience. All of which spells greater good will, a growing reputation, and real servicing profits.

Ask...

Get further facts regarding this amazing first-aid technique. Ask to see these items. Better still, order a kit TODAY . . . and cash in on this sure-shot refrigerator servicing.

CAPACITOR SELECTOR

If in doubt regarding capacity required, use this simple instrument. Clip in place of discarded unit. Throw first toggle switch (65 mfd.), check starting time, and see that voltmeter reading doesn't exceed 138, red line on scale. Try other switches. When adequate starting torque, within 3 seconds' start, below 138 volt peak, is attained, total required capacity from "On" switches. Use capacitor of that value, for replacement.

EMERGENCY CAPACITOR

A truly universal capacitor. Any capacity from 17½ to 152½ mfd. Determine required capacity—from discarded unit's label, from motor nameplate, from AEROVOX listings — then plug in required sections (see above). Clip in place. Presto! Motor gets going. Later, when convenient, install permanent AEROVOX replacement.

Complete Kit Model No. 87

Comprising Capacitor Selector and two Emergency Capacitors, with latest replacement listings.

$18.00 DEALER'S SERVICEMEN'S NET COST

Capacitor Selector Model No. 85 $10.00

Emergency Capacitor Model No. 86 $4.00 each

AEROVOX MOTOR-STARTING CAPACITORS

FOR permanent replacements, AEROVOX offers the most extensive line of both standard and exact-duplicate capacitors now available.

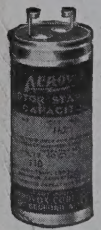
These units are listed for ready identification and selection under motor manufacturer's name, including manufacturer's part number, Aerovox catalog number, capacity, AC voltage, dimensions, illustration, list price, and other essential data, in the AEROVOX INDUSTRIAL CAPACITOR CATALOG, copy of which will be sent to you on request, or given to you by your local jobber.

Also, for your convenience, these listings are available as a wall chart which you will find at your jobber's.

As pioneer of high-capacity electrolytics for motor-starting functions, and as the producer of the greater portion of the two million or more units in daily use, AEROVOX can best serve your replacement requirements with a thorough background of experience, the most extensive data available, and a product that is fully tried, tested and perfected. **ASK YOUR JOBBER FOR FURTHER DETAILS, OR WRITE AEROVOX DIRECT.**

Standard Universal Electrolytic Motor-Starting Replacement Capacitors

Many of these Standard Universal replacements are also Exact Duplicate replacements. They have the same AEROVOX catalog numbers shown in the special Motor-Starting Capacitor Catalog devoted to the AEROVOX complete line. This list is intended to simplify the selection of required capacitor when manufacturer's part number and AEROVOX catalog number are not known. Information given: capacity range, voltage rating, dimensions and type of container may help determine capacitor required in absence of original unit or name-plate data. This listing also ideal for use with the AEROVOX Capacitor Selector.

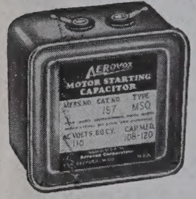


TYPE MSRT

Supplied with insulating tube (not shown). Former AEROVOX designation Fig. 18A or 18B.

110 VOLTS A.C.—ROUND CANS—ULTRA-COMPACT
TYPE MSRT—1⅜" and 2" Cans with Insulating Tube

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	CAPACITY MFDS. Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
MSRT-217	20-24	20	110	1⅜x3⅛	MSRT or 18B	$1.35	$0.95
MSRT-218	26-30	25	110	1⅜x3⅛	MSRT or 18B	1.35	.95
MSRT-219	32-36	30	110	1⅜x3⅛	MSRT or 18B	1.45	1.02
MSRT-220	38-42	35	110	1⅜x3⅛	MSRT or 18B	1.45	1.02
MSRT-168	43-48	40	110	1⅜x3⅛	MSRT or 18B	1.45	1.02
MSRT-193	53-60	50	110	1⅜x3⅛	MSRT or 18B	1.50	1.05
MSRT-167	64-72	60	110	1⅜x3⅛	MSRT or 18B	1.50	1.05
MSRT-176	70-78	65	110	1⅜x3⅛	MSRT or 18B	1.60	1.12
MSRT-196	75-84	70	110	1⅜x3⅛	MSRT or 18B	1.60	1.12
MSRT-180	86-96	80	110	1⅜x3⅛	MSRT or 18B	1.65	1.16
MSRT-194	97-107	90	110	1⅜x3⅛	MSRT or 18B	1.70	1.19
MSRT-162	108-120	100	110	1⅜x3⅛	MSRT or 18B	1.70	1.19
MSRT-160	124-138	115	110	1⅜x3⅛	MSRT or 18B	1.80	1.26
MSRT-171	145-162	135	110	1⅜x3⅛	MSRT or 18B	2.20	1.54
MSRT-198	161-180	150	110	1⅜x4⅛	MSRT or 18B	2.40	1.68
MSRT-197	161-180	150	110	2 x3⅛	MSRT or 18B	2.40	1.68
MSRT-257	189-210	175	110	2 x3⅛	MSRT or 18B	2.80	1.96
MSRT-192	216-240	200	110	2 x3⅛	MSRT or 18B	3.25	2.28
MSRT-213	243-270	225	110	2 x3⅛	MSRT or 18B	3.60	2.52
MSRT-207	270-300	250	110	2 x3⅛	MSRT or 18B	4.20	2.94
MSRT-210	324-360	300	110	2 x4⅛	MSRT or 18B	4.80	3.36
MSRT-206	378-420	350	110	2 x4⅛	MSRT or 18B	5.40	3.78
MSRT-256	400-480	450	110	2 x4⅛	MSRT or 18B	7.50	5.25



TYPE MSQT

Supplied with cardboard insulating container (not shown). Former AEROVOX designation Fig. 12.

110 VOLTS A.C.—ROUND CANS—HEAVY-DUTY
TYPE MSRT—2" and 2½" Cans with Insulating Tube

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	CAPACITY MFDS. Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
MSRT-221	32-36	30	110	2 x4⅛	MSRT or 18B	$2.65	$1.86
MSRT-166	53-60	50	110	2 x4⅛	MSRT or 18B	2.70	1.89
MSRT-149	64-72	65	110	2 x4⅛	MSRT or 18B	2.80	1.96
MSRT-146	86-96	80	110	2 x4⅛	MSRT or 18B	2.85	2.00
MSRT-222	97-107	90	110	2 x4⅛	MSRT or 18B	2.90	2.03
MSRT-147	108-120	100	110	2 x4⅛	MSRT or 18B	2.90	2.03
MSRT-140	124-138	115	110	2 x4⅛	MSRT or 18B	3.00	2.10
MSRT-223	145-162	135	110	2 x4⅛	MSRT or 18B	3.40	2.38
MSRT-224	161-180	150	110	2 x4⅛	MSRT or 18B	3.60	2.52
MSRT-225	189-210	175	110	2 x4⅛	MSRT or 18B	4.10	2.87
MSRT-226	270-300	250	110	2 x4⅛	MSRT or 18B	5.40	3.78
MSRT-227	32-36	30	110	2½x4⅛	MSRT or 18B	2.65	1.86
MSRT-228	53-60	50	110	2½x4⅛	MSRT or 18B	2.70	1.89
MSRT-229	64-72	60	110	2½x4⅛	MSRT or 18B	2.80	1.96
MSRT-107	86-96	80	110	2½x4⅛	MSRT or 18B	2.85	2.00
MSRT-230	97-107	90	110	2½x4⅛	MSRT or 18B	2.90	2.03
MRST-142	108-120	100	110	2½x4⅛	MSRT or 18B	2.90	2.03
MSRT-110	124-138	115	110	2½x4⅛	MSRT or 18B	3.00	2.10
MSRT-148	145-162	135	110	2½x4⅛	MSRT or 18B	3.40	2.38
MSRT-188	161-180	150	110	2½x4⅛	MSRT or 18B	3.60	2.52
MSRT-231	189-210	175	110	2½x4⅛	MSRT or 18B	4.10	2.87
MSRT-232	270-300	250	110	2½x4⅛	MSRT or 18B	5.40	3.78

110 VOLTS A.C.—SQUARE DRAWN CANS
TYPE MSQT—3½" x 3½" with Cardboard Insulating Container

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	CAPACITY MFDS. Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
MSQT-233	32-36	30	110	3½x3½x1⅛	MSQT or 12	$2.40	$1.68
MSQT-159A	53-60	50	110	3½x3½x1⅛	MSQT or 12	2.40	1.68
MSQT-234	64-72	60	110	3½x3½x1⅛	MSQT or 12	2.55	1.79
MSQT-159B	86-96	80	110	3½x3½x2	MSQT or 12	2.55	1.79
MSQT-235	97-107	90	110	3½x3½x2	MSQT or 12	2.65	1.86
MSQT-157	108-120	100	110	3½x3½x2	MSQT or 12	2.65	1.86
MSQT-137	124-138	115	110	3½x3½x2	MSQT or 12	3.00	2.10
MSQT-236	145-162	135	110	3½x3½x2	MSQT or 12	3.40	2.38
MSQT-255	161-180	150	110	3½x3½x2	MSQT or 12	3.60	2.52
MSQT-237	189-210	175	110	3½x3½x2	MSQT or 12	4.10	2.87
MSQT-238	270-300	250	110	3½x3½x2	MSQT or 12	5.40	3.78

AEROVOX
MOTOR STARTING CONDENSER
AEROVOX CORPORATION
NEW BEDFORD, MASS.

TYPE MSTT

Supplied with cardboard insulating container (not shown). Former AEROVOX designation Fig. 15A.

110 VOLTS A.C.—SQUARE DRAWN CANS
Type MSTT—3½" x 3½" with Terminal Board for Thermostat Connections and Cardboard Insulating Container

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	CAPACITY MFDS. Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
MSTT-239	32-36	30	110	3½x3½x2	MSTT or 15A	$2.40	$1.68
MSTT-240	53-60	50	110	3½x3½x2	MSTT or 15A	2.40	1.68
MSTT-241	64-72	60	110	3½x3½x2	MSTT or 15A	2.55	1.79
MSTT-242	86-96	80	110	3½x3½x2	MSTT or 15A	2.55	1.79
MSTT-243	97-107	90	110	3½x3½x2	MSTT or 15A	2.65	1.86
MSTT-116	108-120	100	110	3½x3½x2	MSTT or 15A	2.65	1.86
MSTT-101	124-138	115	110	3½x3½x2	MSTT or 15A	3.00	2.10
MSTT-200	145-162	135	110	3½x3½x2	MSTT or 15A	3.40	2.38
MSTT-208	161-180	150	110	3½x3½x2	MSTT or 15A	3.60	2.52
MSTT-244	189-210	175	110	3½x3½x2	MSTT or 15A	4.10	2.87
MSTT-245	270-300	250	110	3½x3½x2	MSTT or 15A	5.40	3.78

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. • Also, prices subject to change without notice.

Standard Universal Electrolytic Motor-Starting Replacement Capacitors

Many of these Standard Universal replacements are also Exact Duplicate replacements. They have the same AEROVOX catalog numbers shown in the special Motor-Starting Capacitor Catalog devoted to the AEROVOX complete line. This list is intended to simplify the selection of required capacitor when manufacturer's part number and AEROVOX catalog number are not known. Information given: capacity range, voltage rating, dimensions and type of container may help determine capacitor required in absence of original unit or name-plate data. This listing also ideal for use with the AEROVOX Capacitor Selector.

125 VOLTS A.C.—ROUND CANS—ULTRA-COMPACT
TYPE MSRT—1⅜" and 2" Cans with Insulating Tube

(Max. Surge Voltage 120% of Rated Voltage)

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure No.	List Price	Net Price
MSRT-258	20-24	20	125	1⅜x3⅛	MSRT or 18B	$1.65	$1.16
MSRT-259	26-30	25	125	1⅜x3⅛	MSRT or 18B	1.65	1.16
MSRT-260	32-36	30	125	1⅜x3⅛	MSRT or 18B	1.75	1.23
MSRT-261	38-42	35	125	1⅜x3⅛	MSRT or 18B	1.75	1.23
MSRT-262	43-48	40	125	1⅜x3⅛	MSRT or 18B	1.75	1.23
MSRT-263	53-60	50	125	1⅜x3⅛	MSRT or 18B	1.80	1.26
MSRT-264	64-72	60	125	1⅜x3⅛	MSRT or 18B	1.80	1.26
MSRT-265	70-78	65	125	1⅜x3⅛	MSRT or 18B	1.95	1.37
MSRT-266	75-84	70	125	1⅜x3⅛	MSRT or 18B	1.95	1.37
MSRT-267	86-96	80	125	1⅜x3⅛	MSRT or 18B	2.00	1.40
MSRT-268	97-107	90	125	1⅜x3⅛	MSRT or 18B	2.05	1.44
MSRT-269	108-120	100	125	1⅜x3⅛	MSRT or 18B	2.05	1.44
MSRT-270	124-138	115	125	1⅜x3⅛	MSRT or 18B	2.20	1.54
MSRT-271	145-162	135	125	1⅜x3⅛	MSRT or 18B	2.65	1.86
MSRT-272	161-180	150	125	1⅜x4⅛	MSRT or 18B	2.90	2.03
MSRT-273	216-240	200	125	2 x3⅛	MSRT or 18B	3.90	2.73
MSRT-274	270-300	250	125	2 x3⅛	MSRT or 18B	5.05	3.54
MSRT-275	324-360	300	125	2 x4⅛	MRST or 18B	5.80	4.06
MSRT-276	378-420	350	125	2 x4⅛	MSRT or 18B	6.50	4.55
MSRT-277	400-480	450	125	2 x4⅛	MSRT or 18B	9.00	6.30

125 VOLTS A.C.—ROUND CANS—HEAVY-DUTY
TYPE MSRT—1⅜", 1¾" and 2" Cans with Insulating Tube

(Max. Surge Voltage 140% of Rated Voltage)

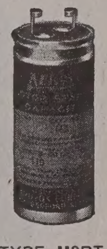
Aerovox Cat. No.	CAPACITY MFDS. Actual Range	Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure No.	List Price	Net Price
MSRT-278	32-36	30	125	1⅜x3⅛	MSRT or 18B	$4.00	$2.80
MSRT-279	53-60	50	125	1⅜x3⅛	MSRT or 18B	4.05	2.84
MSRT-280	64-72	65	125	1⅜x3⅛	MSRT or 18B	4.20	2.94
MSRT-281	86-96	80	125	1⅜x3⅛	MSRT or 18B	4.30	3.01
MSRT-282	97-107	90	125	1⅜x3⅛	MSRT or 18B	4.35	3.05
MSRT-283	108-120	100	125	1¾x3⅛	MSRT or 18B	4.35	3.05
MSRT-284	124-138	115	125	1¾x3⅛	MSRT or 18B	4.50	3.15
MSRT-285	145-162	135	125	1¾x3⅛	MSRT or 18B	5.10	3.57
MSRT-286	161-180	150	125	2 x3⅛	MSRT or 18B	5.40	3.78
MSRT-287	189-210	175	125	2 x3⅛	MSRT or 18B	6.15	4.31
MSRT-288	216-240	200	125	2 x3⅛	MSRT or 18B	6.90	4.83
MSRT-289	243-270	225	125	2 x4⅛	MSRT or 18B	7.50	5.25
MSRT-290	270-300	250	125	2 x4⅛	MSRT or 18B	8.10	5.67
MSRT-291	324-360	300	125	2 x4⅛	MSRT or 18B	10.80	7.56

220 VOLTS A.C.—ROUND CANS—ULTRA COMPACT
TYPE MSRT—1⅜" and 2" Cans with Insulating Tube

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure No.	List Price	Net Price
MSRT-246	20-24	20	220	1⅜x3¼	MSRT or 18B	$2.30	$1.61
MSRT-202	26-30	25	220	1⅜x3¼	MRST or 18B	2.65	1.86
MSRT-248	32-36	30	220	2 x4⅛	MSRT or 18B	3.00	2.10
MSRT-249	38-42	35	220	2 x4⅛	MSRT or 18B	3.40	2.38
MSRT-250	43-48	40	220	2 x4⅛	MSRT or 18B	3.60	2.52
MSRT-251	53-60	50	220	2 x5⅛	MSRT or 18B	4.10	2.87

220 VOLTS A.C.—SQUARE DRAWN CANS
TYPE MSQT—3½" x 3½" with Cardboard Insulating Container

Aerovox Cat. No.	CAPACITY MFDS. Actual Range	Nominal Range	A.C. Voltage	DIMENSIONS D.H. or L.W.D.	Figure No.	List Price	Net Price
MSQT-215	26-30	25	220	3½x3½x2	MSQT or 12	$3.60	$2.52
MSQT-253	32-36	30	220	3½x3½x2	MSQT or 12	4.20	2.94
MSQT-254	43-48	40	220	3½x3½x2	MSQT or 12	4.80	3.36



TYPE MSRT

Supplied with insulating tube (not shown). Former AEROVOX designation Fig. 18A or 18B.

AEROVOX
MOTOR STARTING CAPACITOR

TYPE MSQT

Supplied with cardboard insulating container (not shown). Former AEROVOX designation Fig. 12.

AEROVOX
MOTOR STARTING CONDENSER
AEROVOX CORPORATION NEW BEDFORD, MASS.

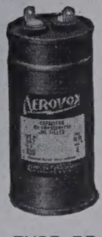
TYPE MSTT

Supplied with cardboard insulating container (not shown). Former AEROVOX designation Fig. 15A.

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

Standard Universal Replacement Oil Capacitors

The following Universal Replacement Oil Capacitors are arranged according to types of containers, and capacitance and voltage ratings. The listing is intended to simplify the selection of required capacitors when manufacturers' part numbers and Aerovox catalog numbers are not known. The required standard Aerovox capacitor may be determined from the information given below.



TYPE RR

Former AEROVOX designation Fig. 25.

ROUND CAN—Type RR—1⅜", 2", 2½" and 3" Containers

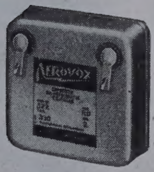
Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
220 VOLTS A.C.						
RR-673	1	220	1⅜x2¾	RR or 25	$ 3.00	$ 2.10
RR-661	2	220	1⅜x3¾	RR or 25	3.70	2.59
RR-698	3	220	2 x3¾	RR or 25	4.00	2.80
RR-638	4	220	2 x3¾	RR or 25	4.45	3.12
RR-717	5	220	2 x4¼	RR or 25	4.85	3.40
RR-636	6	220	2 x5¼	RR or 25	5.40	3.78
RR-634	8	220	2½x4¼	RR or 25	6.00	4.20
RR-637	10	220	2½x4¾	RR or 25	6.85	4.80
RR-635	12	220	2½x5¼	RR or 25	7.80	5.46
RR-753	15	220	3 x4¾	RR or 25	9.90	6.93
RR-758	18	220	3 x5¼	RR or 25	12.00	8.40
330 VOLTS A.C.						
RR-639	1	330	1⅜x2¾	RR or 25	$ 3.30	$ 2.31
RR-658	2	330	2 x2½	RR or 25	4.10	2.87
RR-640	2	330	2 x3¼	RR or 25	4.10	2.87
RR-641	3	330	2 x2¾	RR or 25	4.40	3.08
RR-642	4	330	2 x4¼	RR or 25	4.90	3.43
RR-643	5	330	2 x5¼	RR or 25	5.35	3.75
RR-644	6	330	2½x4¼	RR or 25	5.95	4.17
RR-767	8	330	2½x5¼	RR or 25	6.60	4.62
RR-768	10	330	3 x4¾	RR or 25	7.55	5.29
RR-769	12	330	3 x5¼	RR or 25	8.60	6.02
RR-770	15	330	3 x5¾	RR or 25	10.90	7.63
440 VOLTS A.C.						
RR-645	1	440	2 x3½	RR or 25	$ 3.65	$ 2.56
RR-646	2	440	2 x4¼	RR or 25	4.55	3.19
RR-647	3	440	2½x3¾	RR or 25	4.85	3.40
RR-648	4	440	2½x4¾	RR or 25	5.40	3.78
RR-722	5	440	2½x5¼	RR or 25	5.90	4.13
RR-738	8	440	3 x5¾	RR or 25	7.30	5.11
660 VOLTS A.C.						
RR-671	1	660	2 x4¾	RR or 25	$ 4.05	$ 2.84
RR-693	2	660	2½x5¼	RR or 25	5.05	3.54

TYPE RT

Former AEROVOX designation Fig. 21.

DRAWN CONTAINER—Type RT—3⅜" Square (Terminals on Side)

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
220 VOLTS A.C.						
RT-700	3	220	3⅜x3⅜x1⅛	RT or 21	$ 3.00	$ 2.10
RT-719	5	220	3⅜x3⅜x1½	RT or 21	4.85	3.40
RT-727	6	220	3⅜x3⅜x1¾	RT or 21	5.40	3.78
RT-736	8	220	3⅜x3⅜x2¼	RT or 21	6.00	4.20
330 VOLTS A.C.						
RT-688	2	330	3⅜x3⅜x1⅛	RT or 21	$ 4.10	$ 2.87
RT-712	4	330	3⅜x3⅜x1¾	RT or 21	4.90	3.43
RT-730	6	330	3⅜x3⅜x2¼	RT or 21	5.95	4.17
440 VOLTS A.C.						
RT-691	2	440	3⅜x3⅜x1½	RT or 21	$ 4.55	$ 3.19
RT-705	3	440	3⅜x3⅜x2	RT or 21	4.85	3.40
660 VOLTS A.C.						
RT-627	1	660	3⅜x3⅜x1 9/16	RT or 21	$ 4.05	$ 2.84



TYPE RD

Former AEROVOX designation Fig. 22.

DRAWN CONTAINER—Type RD—3⅜" Square (Terminals on Bottom)

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
220 VOLTS A.C.						
RD-675	1	220	3⅜x3⅜x 9/16	RD or 22	$ 3.00	$ 2.10
RD-685	2	220	3⅜x3⅜x 13/16	RD or 22	3.70	2.59
330 VOLTS A.C.						
RD-677	1	330	3⅜x3⅜x ⅝	RD or 22	$ 3.30	$ 2.31
RD-522	2	330	3⅜x3⅜x1	RD or 22	4.10	2.87
RD-525	5	330	3⅜x3⅜x2 1/16	RD or 22	5.35	3.75
440 VOLTS A.C.						
RD-680	1	440	3⅜x3⅜x 15/16	RD or 22	$ 3.65	$ 2.56

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

Standard Universal Replacement Oil Capacitors

The following Universal Replacement Oil Capacitors are arranged according to types of containers, and capacitance and voltage ratings. The listing is intended to simplify the selection of required capacitors when manufacturers' part numbers and Aerovox catalog numbers are not known. The required standard Aerovox capacitor may be determined from the information given below.

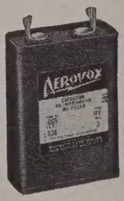
Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
DRAWN CONTAINER—Type RS—4⅜" Square (Terminals on Side)						
220 VOLTS A.C.						
RS-728	6	220	4⅜x4⅜x1⅛	RS or 23	$ 5.40	$ 3.78
RS-743	10	220	4⅜x4⅜x1 7/16	RS or 23	6.85	4.80
RS-749	12	220	4⅜x4⅜x1⅝	RS or 23	7.80	5.46
RS-659	15	220	4⅜x4⅜x1⅞	RS or 23	9.90	6.93
RS-757	16	220	4⅜x4⅜x2	RS or 23	10.90	7.63
330 VOLTS A.C.						
RS-529	4	330	4⅜x4⅜x1⅛	RS or 23	$ 4.90	$ 3.43
RS-530	5	330	4⅜x4⅜x1⅛	RS or 23	5.35	3.75
RS-745	10	330	4⅜x4⅜x2 1/16	RS or 23	7.55	5.29
440 VOLTS A.C.						
RS-714	4	440	4⅜x4⅜x1 9/16	RS or 23	$ 5.40	$ 3.78
RS-732	6	440	4⅜x4⅜x2 1/16	RS or 23	6.55	4.59
660 VOLTS A.C.						
RS-681	1	660	4⅜x4⅜x1⅛	RS or 23	$ 4.05	$ 2.84
RS-695	2	660	4⅜x4⅜x1 11/16	RS or 23	5.05	3.54
DRAWN CONTAINER—Type RB, 4⅜" Square (Terminals on Bottom)						
220 VOLTS A.C.						
RB-686	2	220	4⅜x4⅜x 9/16	RB or 22	$ 3.70	$ 2.59
RB-701	3	220	4⅜x4⅜x ⅝	RB or 22	4.00	2.80
RB-711	4	220	4⅜x4⅜x ¾	RB or 22	4.45	3.12
RB-720	5	220	4⅜x4⅜x ⅞	RB or 22	4.85	3.40
330 VOLTS A.C.						
RB-689	2	330	4⅜x4⅜x ⅝	RB or 22	$ 4.10	$ 2.87
RB-703	3	330	4⅜x4⅜x ¾	RB or 22	4.40	3.08
440 VOLTS A.C.						
RB-679	1	440	4⅜x4⅜x 13/16	RB or 22	$ 3.65	$ 2.56
RB-692	2	440	4⅜x4⅜x1 1/16	RB or 22	4.55	3.19
660 VOLTS A.C.						
RB-707	3	660	4⅜x4⅜x2¼	RB or 22	$ 5.80	$ 4.06
RECTANGULAR CASE—Type RY						
220 VOLTS A.C.						
RY-674	1	220	2 x1 13/16 x1 1/16	RY or 28	$ 3.00	$ 2.10
RY-684	2	220	3¼x1 13/16 x1 1/16	RY or 28	3.70	2.59
RY-699	3	220	3⅞x1 13/16 x1 1/16	RY or 28	4.00	2.80
RY-710	4	220	3¼x2½x1 3/16	RY or 28	4.45	3.12
RY-718	5	220	3⅞x2½x1 3/16	RY or 28	4.85	3.40
RY-726	6	220	4⅝x2½x1 3/16	RY or 28	5.40	3.78
RY-735	8	220	3⅞x3¾x1¼	RY or 28	6.00	4.20
RY-742	10	220	4⅝x3¾x1¼	RY or 28	6.85	4.80
RY-748	12	220	4¼x3¾x1¾	RY or 28	7.80	5.46
RY-754	15	220	5⅛x3¾x1¾	RY or 28	9.90	6.93
RY-759	20	220	5⅛x3¾x2½	RY or 28	12.95	9.07
RY-763	25	220	5⅛x3¾x3 3/16	RY or 28	15.50	10.85
RY-766	30	220	3¾x3¾x4 9/16	RY or 28	18.00	12.60
330 VOLTS A.C.						
RY-663	1	330	2¼x1 13/16 x1 1/16	RY or 28	$ 3.30	$ 2.31
RY-664	2	330	3⅞x1 13/16 x1 1/16	RY or 28	4.10	2.87
RY-665	3	330	3½x2½x1 3/16	RY or 28	4.40	3.08
RY-666	4	330	4⅝x2½x1 3/16	RY or 28	4.90	3.43
RY-667	5	330	3⅞x3¾x1¼	RY or 28	5.35	3.75
RY-668	6	330	4⅛x3¾x1¼	RY or 28	5.95	4.17
RY-669	8	330	3⅞x3¾x1¾	RY or 28	6.60	4.62
RY-670	10	330	4⅝x3¾x1¾	RY or 28	7.55	5.29
RY-751	12	330	4⅝x3¾x2¼	RY or 28	8.60	6.02
RY-755	15	330	4⅛x3¾x3 3/16	RY or 28	10.90	7.63
RY-760	20	330	4⅝x3¾x4 9/16	RY or 28	14.40	10.08
RY-764	25	330	4⅝x3¾x4 9/16	RY or 28	18.00	12.60
440 VOLTS A.C.						
RY-678	1	440	3⅞x1 13/16 x1 1/16	RY or 28	$ 3.65	$ 2.56
RY-690	2	440	4⅛x2½x1 3/16	RY or 28	4.55	3.19
RY-704	3	440	3½x3¾x1¼	RY or 28	4.85	3.40
RY-713	4	440	3½x3¾x1¾	RY or 28	5.40	3.78
RY-723	5	440	4½x3¾x1¾	RY or 28	5.90	4.13
RY-731	6	440	3 13/16 x3¾x2¼	RY or 28	6.55	4.59
RY-739	8	440	4⅝x3¾x2½	RY or 28	7.30	5.11
RY-746	10	440	4⅝x3¾x3 3/16	RY or 28	8.30	5.81
RY-752	12	440	3⅞x3¾x4 9/16	RY or 28	9.50	6.65
RY-756	15	440	4⅝x3¾x4 9/16	RY or 28	12.10	8.47
RY-761	20	440	6 x3¾x4 9/16	RY or 28	15.85	11.10
660 VOLTS A.C.						
RY-694	2	660	4¾x3¾x1¾	RY or 28	$ 5.05	$ 3.54
RY-706	3	660	4⅝x3¾x2¼	RY or 28	5.85	4.10
RY-715	4	660	4 x3¾x4 9/16	RY or 28	6.50	4.55
RY-724	5	660	4⅝x3¾x3 3/16	RY or 28	7.10	4.97
RY-733	6	660	5⅜x3¾x3 3/16	RY or 28	7.85	5.50
RY-740	8	660	5⅜x3¾x4 9/16	RY or 28	8.75	6.13
RY-747	10	660	6⅜x3¾x4 9/16	RY or 28	10.00	7.00

TYPE RS

Former AEROVOX designation Fig. 23.

TYPE RB

Former AEROVOX designation Fig. 24.



TYPE RY

Former AEROVOX designation Fig. 28.

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.

Standard Universal Replacement Oil Capacitors

The following Universal Replacement Oil Capacitors are arranged according to types of containers, and capacitance and voltage ratings. The listing is intended to simplify the selection of required capacitors when manufacturers' part numbers and Aerovox catalog numbers are not known. The required standard Aerovox capacitor may be determined from the information given below.

TYPE RF

Former AEROVOX designation Fig. 20.

TYPE RK

Former AEROVOX designation Fig. 29.

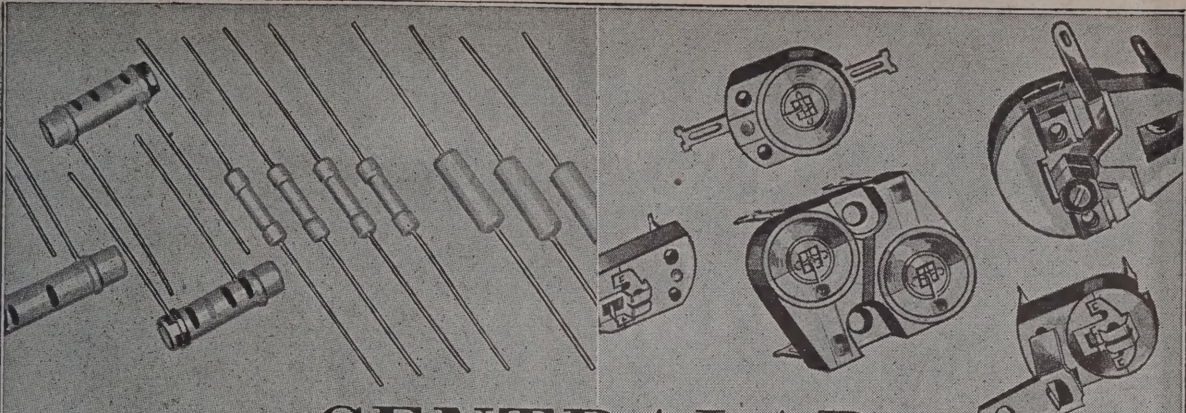
RECTANGULAR CASE—Type RF—4⅞" x 3⅛" (Terminals on Cover)

Aerovox Cat. No.	CAPACITY MFDS.	A.C. Volts	DIMENSIONS D.H. or L.W.D.	Figure	List Price	Net Price
			220 VOLTS A.C.			
RF-676	1	220	4⅞x3⅛x ⅞	RF or 20	$ 3.00	$ 2.10
RF-687	2	220	4⅞x3⅛x1⅛	RF or 20	3.70	2.59
RF-702	3	220	4⅞x3⅛x1¼	RF or 20	4.00	2.80
RF-662	4	220	4⅞x3⅛x1⅜	RF or 20	4.45	3.12
RF-721	5	220	4⅞x3⅛x1½	RF or 20	4.85	3.40
RF-729	6	220	4⅞x3⅛x1⅝	RF or 20	5.40	3.78
RF-737	8	220	4⅞x3⅛x1⅞	RF or 20	6.00	4.20
RF-744	10	220	4⅞x3⅛x2⅛	RF or 20	6.85	4.80
RF-750	12	220	4⅞x3⅛x2⅜	RF or 20	7.80	5.46
RF-660	20	220	4⅞x3⅛x3⅜	RF or 20	12.95	9.07
RF-657	30	220	4⅞x3⅛x4⅝	RF or 20	18.00	12.60
			330 VOLTS A.C.			
RF-508	1	330	4⅞x3⅛x1	RF or 20	$ 3.30	$ 2.31
RF-509	2	330	4⅞x3⅛x1⅛	RF or 20	4.10	2.87
RF-510	3	330	4⅞x3⅛x1⅜	RF or 20	4.40	3.08
RF-511	4	330	4⅞x3⅛x1½	RF or 20	4.90	3.43
RF-649	5	330	4⅞x3⅛x1¾	RF or 20	5.35	3.75
RF-512	6	330	4⅞x3⅛x1⅞	RF or 20	5.95	4.17
RF-513	8	330	4⅞x3⅛x2¼	RF or 20	6.60	4.62
RF-561	10	330	4⅞x3⅛x2⅝	RF or 20	7.55	5.29
RF-562	12	330	4⅞x3⅛x3	RF or 20	8.60	6.02
RF-563	14	330	4⅞x3⅛x3⅞	RF or 20	10.00	7.00
RF-564	16	330	4⅞x3⅛x4¼	RF or 20	12.00	8.40
RF-620	20	330	4⅞x3⅛x4½	RF or 20	14.40	10.08
RF-765	25	330	4⅞x3⅛x5½	RF or 20	18.00	12.60
			440 VOLTS A.C.			
RF-650	1	440	4⅞x3⅛x1	RF or 20	$ 3.65	$ 2.56
RF-586	2	440	4⅞x3⅛x1⅜	RF or 20	4.55	3.19
RF-584	3	440	4⅞x3⅛x1¾	RF or 20	4.85	3.40
RF-652	4	440	4⅞x3⅛x2	RF or 20	5.40	3.78
RF-653	5	440	4⅞x3⅛x2⅜	RF or 20	5.90	4.13
RF-654	6	440	4⅞x3⅛x2⅝	RF or 20	6.55	4.59
RF-655	8	440	4⅞x3⅛x3¼	RF or 20	7.30	5.11
RF-600	10	440	4⅞x3⅛x3⅞	RF or 20	8.30	5.81
RF-599	12	440	4⅞x3⅛x4¾	RF or 20	9.50	6.65
RF-762	20	440	4⅞x3⅛x7	RF or 20	15.85	11.10
			660 VOLTS A.C.			
RF-672	1	660	4⅞x3⅛x1½	RF or 20	$ 4.05	$ 2.84
RF-696	2	660	4⅞x3⅛x2¼	RF or 20	5.05	3.54
RF-708	3	660	4⅞x3⅛x3	RF or 20	5.80	4.06
RF-716	4	660	4⅞x3⅛x3¾	RF or 20	6.50	4.55
RF-725	5	660	4⅞x3⅛x4½	RF or 20	7.10	4.97
RF-734	6	660	4⅞x3⅛x5¼	RF or 20	7.85	5.50
RF-741	8	660	4⅞x3⅛x6¾	RF or 20	8.35	5.85

RECTANGULAR CASE—TYPE RK—4⅞" x 3⅛" (Terminals on Side)

			330 VOLTS A.C.			
RK-612	3	330	4⅞x3⅛x1½	RK or 29	$ 4.40	$ 3.08
			660 VOLTS A.C.			
RK-548	1	660	4⅞x3⅛x1½	RK or 29	$ 4.05	$ 2.84
RK-549	2	660	4⅞x3⅛x2¼	RK or 29	5.05	3.54
RK-550	3	660	4⅞x3⅛x3	RK or 29	5.85	4.10
RK-551	4	660	4⅞x3⅛x3¾	RK or 29	6.50	4.55
RK-552	5	660	4⅞x3⅛x4½	RK or 29	7.10	4.97
RK-553	6	660	4⅞x3⅛x5¼	RK or 29	7.85	5.50

During the present emergency, we reserve the right to make mechanical changes without notice in order to produce equally suitable substitutes whenever and wherever necessary. - Also, prices subject to change without notice.



CENTRALAB

CAPACITORS TRIMMERS

CRL capacitors are a thin wall ceramic tube spacing two tubular silver plates. Silver is electroplated on ceramic, wire leads are permanently soldered. NPO below means zero temperature coefficient and is used where no change with temperature is desired. N750 indicates negative temperature compensating capacitor. N750 = .00075 mmf/mmf/°C. Special type capacitors are also available, including SILVER MICAS.

ZERO AND NEGATIVE TEMPERATURE COEFFICIENT COMPENSATING TYPES

Capacity MMF	Catalog Numbers						Price
	Uninsulated		Insulated End Cap		Fully Insulated		
	NPO*	N750**	NPO*	N750**	NPO*	N750**	
1	....	....	924Z	....	933Z	....	$0.60
2	....	....	....	924N	....	933N	.60
3	....	....	923Z	924N	932Z	933N	.60
4	....	....	923Z	....	932Z	....	.60
5	809Z	....	923Z	....	932Z	....	.60
10	811Z	811N	920Z	923N	931Z	932N	.60
20	812Z	811N	920Z	923N	931Z	932N	.60
25	808Z	811N	....	923N	930Z	932N	.60
40	813Z	809N	....	920N	....	931N	.60
50	813Z	812N	....	920N	....	931N	.60
75	810Z	808N	....	....	....	....	.60
100	810Z	813N	....	....	....	....	.60
125	814Z	....	....	....	....	....	1.00
150	814Z	....	....	....	....	....	.80
150	....	810N	....	....	....	....	.60
175	814Z	....	....	....	....	....	.80
200	....	810N	....	....	....	....	.60
200	814Z	....	....	....	....	....	.80
250	....	810N	....	....	....	....	.60
250	816Z	....	....	....	....	....	1.00
300	....	810N	....	....	....	....	.80
300	816Z	....	....	....	....	....	1.00
350	....	810N	....	....	....	....	.80
350	816Z	....	....	....	....	....	1.00
400	....	814N	....	....	....	....	.80
450	....	814N	....	....	....	....	.80
500	....	814N	....	....	....	....	.80
600	....	816N	....	....	....	....	1.00
700	....	816N	....	....	....	....	1.00
800	....	816N	....	....	....	....	1.00

Dimensions: overall length, 808, 809, 811, 812 and 813 (.460″ Max.), 810 (.860″ Max.); 814 (1.300″ Max.); 816 (1.800″ Max.); 920 and 931 (.750″ Max.); 930 (1.187″ Max.); 923, 924, 932 and 933 (4.375″ Max.)

CRL ceramic trimmers are interchangeable with air trimmers for most applications and have definite advantages in space requirements and mechanical stability. Types 823 and 822 have bases of strong, low dielectric steatite and may be mounted on a metal panel with little increase in minimum capacity. The upper surface is ground optically flat and fired with pure silver to form a stationary capacitor plate. The rotor is of high dielectric ceramic with lower surface ground optically flat to contact the stator with a uniform minimum air film. The top is silvered in a variable pattern to establish desired capacity range. Available in zero or negative temperature coefficient. Type 820 is more fragile and available in negative temperature coefficient only.

AVAILABLE TRIMMER RANGES AND TYPES

Type 823-N (Temp. Coeff. — .0005 mmf/mmf/°C) **$2.50 Each**

< 20 mmf. to > 125 mmf..... 823-AN
< 10 mmf. to > 100 mmf..... 823-BN
< 8 mmf. to > 50 mmf..... 823-DN
< 8 mmf. to > 25 mmf..... 823-EN

Type 823-Z (Zero Temperature Coefficient) **$2.50 Each**

< 12 mmf. to > 60 mmf..... 823-AZ
< 10 mmf. to > 50 mmf..... 823-BZ
< 6 mmf. to > 25 mmf..... 823-DZ
< 5 mmf. to > 12 mmf..... 823-EZ

Type 822-N (Temp. Coeff. — .0005 mmf/mmf/°C) **$1.50 Each**

< 5 mmf. to > 50 mmf. 822-AN
< 7 mmf. to > 45 mmf..... 822-BN
< 4.5 mmf. to > 25 mmf..... 822-CN
< 2 mmf. to > 6 mmf..... 822-DN

Type 822-Z (Zero Temperature Coefficient) **$1.50 Each**

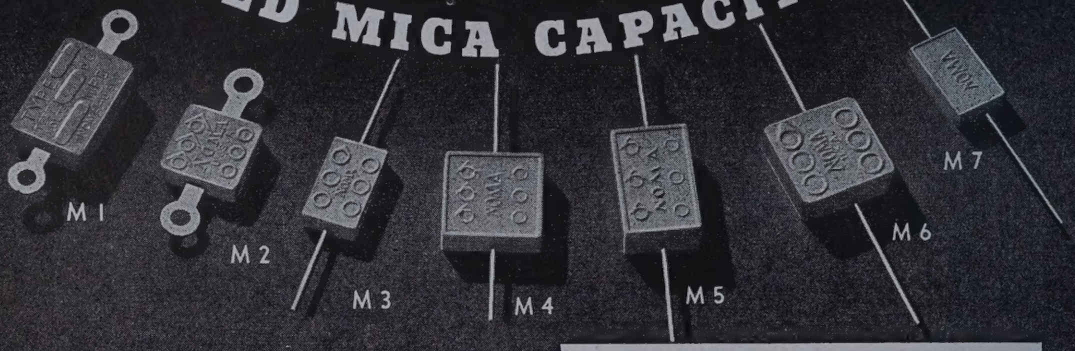
< 4.5 mmf. to > 25 mmf..... 822-AZ
< 2.5 mmf. to > 13 mmf..... 822-BZ
< 2 mmf. to > 7.5 mmf..... 822-CZ

Type 820 (Temp. Coeff. — .0005 mmf/mmf/°C) **$0.75 Each**

< 2.6 mmf. to > 6 mmf..... 820-A
< 5 mmf. to > 20 mmf..... 820-B
< 7 mmf. to > 35 mmf..... 820-C

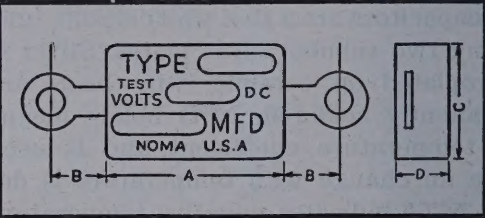
NOMA

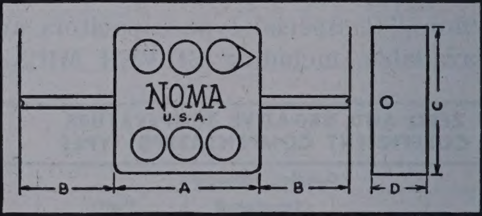
FIXED MICA CAPACITORS



NOMA capacitors have been engineered and developed to suit the most exacting requirements of radio and electronic engineers. They are precision-made to the highest standards—to provide completely satisfactory operation both in test instruments and commercial products.

Every NOMA capacitor is tested for *accuracy* in capacity, stabilized to *reduce* capacitance drift, flash tested at 200% of the rated working voltage and inspected for mechanical defects to insure its high quality and reliability.





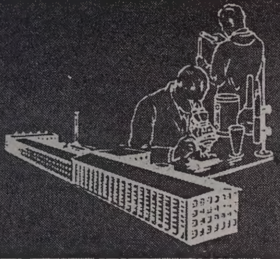
TYPE		PHYSICAL DIMENSIONS				CAPACITIES AVAILABLE	MAXIMUM WORKING VOLTAGE
NOMA	AWS-C-75.3	A	B	C	D		
M 1	——	1"	5/16	5/8	21/64	0 to .01 mfd.	1000
M 2	——	21/32	11/32	21/32	3/16	0 to .002 mfd.	500
M 3	cm 20	51/64	1-1/8	15/32	7/32	0 to .002 mfd.	500
M 4	cm 30	53/64	1-1/8	53/64	9/32	0 to .0033 mfd.	1000
M 5	cm 40	1-1/32	1-3/8	41/64	11/32	0 to .01 mfd.	1000
M 6	cm 35	53/64	1-1/8	53/64	11/32	0 to .01 mfd.	1000
M 7	——	11/16	1-1/8	7/16	3/16	0 to .0005 mfd.	500

When you plan your postwar products, why not mail a set of the capacitor specifications to Noma? NOMA will manufacture a complete line of Mica, Paper, and Electrolytic capacitors for use by the radio and electronic industries.

NOMA ELECTRIC CORPORATION

55 West 13th Street • New York 11, N. Y.

CHICAGO • SAN FRANCISCO • TORONTO • LONDON



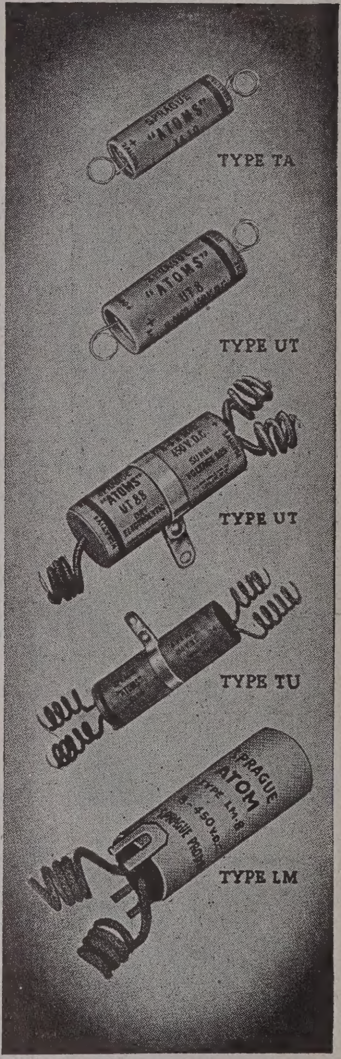
SPRAGUE CONDENSERS

SPRAGUE ATOMS

They'll Handle Almost Any Job . . . Better, and at Less Cost!

It took wartime shortages of other types to prove beyond all question that, if you have Sprague Atoms, you don't need any other capacitor types for modern service work! Atoms will handle just about any condenser replacement you're ever called upon to make. By following instructions in our Victory Line Bulletin (COPY FREE) you can even use them to replace wet electrolytics!

Atoms cost less—are much smaller in size—yet are fully reliable. They have low leakage and withstand exceptionally high surges. Hermetically sealed—yet absolutely protected against "blow-ups." Use Atoms universally! Save time—save money—save space!



UNCONDITIONAL GUARANTEE

Extremely Low Leakage—High Surge Voltage—Exceptionally Good Shelf Life

Cat. No.	Cap. Mfd.	Work. Volt.	Metal Diam.	Tube Length	List Price
TA-10	10	25	5/8"	1 7/8"	$0.50
TA-25	25	25	5/8"	1 7/8"	.60
TA-55	5	50	9/16"	1 7/8"	.50
TA-510	10	50	11/16"	1 7/8"	.55
TA-525	25	50	11/16"	1 7/8"	.70
TA-550	50	50	11/16"	1 7/8"	.85
UT-41	4	150	11/16"	1 7/8"	.50
UT-81	8	150	11/16"	1 7/8"	.55
UT-121	12	150	11/16"	1 7/8"	.60
UT-161	16	150	11/16"	1 7/8"	.70
UT-201	20	150	11/16"	1 7/8"	.75
UT-301	30	150	13/16"	1 7/8"	.80
UT-401	40	150	7/8"	1 7/8"	.80
UT-42	4	250	9/16"	1 7/8"	.55
UT-82	8	250	5/8"	1 7/8"	.60
UT-122	12	250	3/4"	1 7/8"	.80
UT-162	16	250	3/4"	1 7/8"	.90
UT-202	20	250	7/8"	2 1/8"	1.00
UT-402	40	250	7/8"	2 3/8"	1.15
UT-43	4	350	5/8"	1 7/8"	.60
UT-83	8	350	3/4"	1 7/8"	.70
UT-123	12	350	7/8"	1 7/8"	.85
UT-4	4	450	11/16"	1 7/8"	.70
UT-85	8	500	15/16"	1 7/8"	1.05

Cat. No.	Cap. Mfd.	Work. Volt.	Metal Diam.	Tube Length	List Price
UT-8	8	450	13/16"	1 7/8"	$0.75
UT-12	12	450	15/16"	1 7/8"	.90
UT-16	16	450	7/8"	2 1/8"	1.10
UT-20	20	450	15/16"	2 1/8"	1.20
DUAL COMBINATION ATOMS					
TA-100	10-10	50	5/8"	2 3/8"	1.00
TA-88	8-8	150	11/16"	2 3/8"	1.00
TA-122	12-20	150	11/16"	2 3/8"	1.15
TA-220	20-20	150	15/16"	2 3/8"	1.30
TA-212	12-12	200	13/16"	2 3/8"	1.15
TA-216	16-16	200	7/8"	2 3/8"	1.30
TA-816	8-16	200	13/16"	2 3/8"	1.15
AT-816	8-16	250	3/4"	2 7/8"	1.30
AT-261	16-16	250	1"	2 3/8"	1.50
UT-88	8-8	450	1"	2 3/8"	1.30
UT-816	8-16	450	1"	2 5/8"	1.65
SEPARATE POSITIVE AND NEGATIVE LEADS					
TU-220	20-20	150	1"	2 3/8"	$1.65
TU-420	40-20	150	1 1/16"	2 3/8"	1.70
TU-816	8-16	250	1"	2 3/8"	1.70
TU-216	16-16	250	1"	2 7/8"	2.00
TU-88	8-8	450	1 1/16"	3 3/8"	1.65

UNIVERSAL MOUNTING TYPE

Type LM Equipped with rugged universal mounting lugs which can be soldered on top of chassis, anchored with screws, or be extended through holes in chassis and bent under. Mount in any position. All condenser sections have separate positive and separate negative leads, which can be connected together to get common positive or negative replacements. Individual sections insure maximum convenience with safe performance. Lead ends are well sealed with high melting point compound, making units moisture proof.

Cat. No.	Cap. Mfd.	Work. Volt.	Cardb'd Tube Diam.	Cardb'd Tube Length	List Price	Cat. No.	Cap. Mfd.	Work. Volt.	Cardb'd Tube Diam.	Cardb'd Tube Length	List Price
LM-121	20	150	3/4"	2 1/2"	$0.75	**LM-88**	8-8	450	1"	3"	1.65
LM-8	8	450	3/4"	2 1/2"	.75	**LM-816**	8-16	450	1 3/8"	3 3/4"	2.00
LM-16	16	450	7/8"	2 1/2"	1.10	**LM-1616**	16-16	450	1 3/8"	4 3/4"	2.40
LM-220	20-20	150	1"	2 1/2"	1.65	**LM-2016**	20-16/25	250/25	1 1/8"	3 1/2"	2.50
LM-28	8-8	250	7/8"	2 1/2"	1.35	**LM-4020**	40-20/25	250/25	1 1/4"	3 1/2"	2.85
LM-216	16-16	250	1"	3"	2.00						

HANDY ATOM KITS

For your convenience, we have packed ATOMS in these handy kits, a few of which will equip you for almost any dry electrolytic replacement you'll ever be called upon to make.

Remember: "You Can Always Get at 'Em With Sprague ATOMS!"

KIT No. AK-1

Contains six of the popular UTS (8 mfd.) 450-volt ATOMS............**List $4.35**

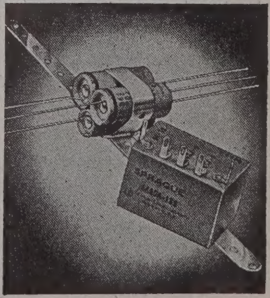
KIT No. AK-2

Twelve ATOMS as follows: Six UT-8; one UT-4; one UT-41; two UT-81 and two TA-10....................................**List $7.50**

CONDENSER REPLACEMENTS

Make Up Your Own Hard-to-Get Combinations

The larger, exact-duplicate replacement in this photo costs $1.20. Three ATOMS combined with ST straps give the same hard-to-get capacities—in smaller size and for only 96c. ST straps are supplied free on request with your ATOM purchase. Thus you can make up almost **any** condenser combination using standard Sprague ATOMS obtainable from jobbers' stocks.



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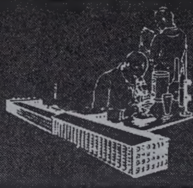


SPRAGUE Condensers

Famous SPRAGUE TUBULARS

Type TC (Cartridge By-Pass Type)

"Not a Failure in a Million" is more than a slogan for Sprague Tubulars. It is a matter of record—convincing proof of the efficiency of the most popular condensers ever presented to the radio profession.

Test Voltage 1200 Working Voltage 600

Catalog No.	Capacity Mfd.	Dimensions	List Price	Catalog No.	Capacity Mfd.	Dimensions	List Price
TC-31	.0001	7/8 x 3/8	**.20**	**TC-11**	.01	1 3/8 x 1/2	**$0.20**
TC-325	.00025	7/8 x 3/8	**.20**	**TC-12**	.02	1 3/8 x 1/2	**.20**
TC-34	.0004	7/8 x 3/8	**.20**	**TC-13**	.03	1 5/8 x 1/2	**.25**
TC-35	.0005	7/8 x 3/8	**.20**	**TC-14**	.04	1 5/8 x 1/2	**.25**
TC-21	.001	1 1/4 x 7/16	**.20**	**TC-15**	.05	1 5/8 x 1/2	**.25**
TC-22	.002	1 1/4 x 7/16	**.20**	**TC-16**	.06	1 5/8 x 9/16	**.30**
TC-23	.003	1 3/8 x 3/8	**.20**	**TC-1**	.1	1 5/8 x 5/8	**.30**
TC-24	.004	1 3/8 x 7/16	**.20**	**TC-2**	.25	2 1/8 x 15/16	**.45**
TC-25	.005	1 3/8 x 7/16	**.20**	**TC-5**	.5	2 1/8 x 15/16	**.60**
TC-26	.006	1 3/8 x 1/2	**.20**	**TC-10**	1.0	2 1/2 x 1 5/16	**1.00**

BUY THEM IN THESE HANDY KITS

Save trips to your jobber and save money by buying these fast-moving paper tubular condensers in handy kit form.

Catalog No.	Each Kit Contains			List Price
TK-55	Five	TC-5	(.5 mfd.)	**$3.00**
TK-62	Six	TC-2	(.25 mfd.)	**2.55**
TK-81	Eight	TC-1	(.1 mfd.)	**2.40**
TK-1515	Fifteen	TC-15	(.05 mfd.)	**3.60**
TK-1511	Fifteen	TC-11	(.01 mfd.)	**2.70**
TK-1512	Fifteen	TC-12	(.02 mfd.)	**2.70**

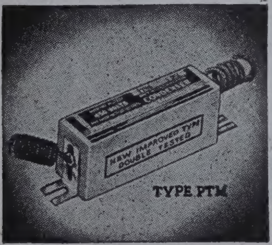
CATALOG No. TK-330

LIST PRICE $8.05

Each Kit contains 33 TC Tubulars as follows:

2 TC-21 (.001)	5 TC-11 (.01)	8 TC-1 (.1)
3 TC-22 (.002)	5 TC-12 (.02)	2 TC-2 (.25)
3 TC-25 (.005)	4 TC-15 (.05)	1 TC-5 (.5)

SPRAGUE PINHEAD TINY MIKE



TYPE PTM

Type PTM. (Rectangular).

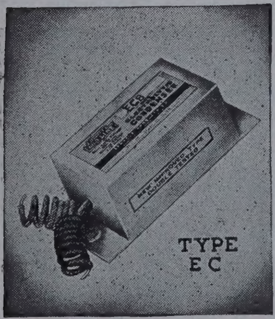
Sprague offers a complete size range in dry electrolytic replacements, each one affording the utmost in reliability and bringing you the additional convenience feature of quick, easy mounting with the Sprague special metal mounting feet. See cut at left.

Type PTM is a rectangular condenser of outstanding reliability in convenient small size. Universal for a wide variety of replacements. Conservatively rated at 525 volts, but will stand surges as high as 560 to 580 volts, and come back for more!

Working Voltage 450 Volts **Surge Voltage 525 Volts**

Catalog No.	Capacity Mfd.	Working Voltage	Dimensions	List Price
PTM-1	1	450	3/4 x 3/4 x 2 1/2	**$0.70**
PTM-2	2	450	3/4 x 3/4 x 2 1/2	**.80**
PTM-4	4	450	7/8 x 7/8 x 2 1/2	**.90**
PTM-8	8	450	3/4 x 1 1/8 x 2 1/2	**1.15**
PTM-12	12	450	1 1/8 x 1 1/8 x 2 1/2	**1.60**
PTM-16	16	450	1 1/4 x 1 1/4 x 2 1/2	**1.75**
PTM-44 (4 leads)	4–4	450	1 1/8 x 1 7/16 x 2 1/2	**1.45**
PTM-48 (4 leads)	4–8	450	1 1/8 x 1 7/16 x 2 1/2	**1.65**
PTM-88 (4 leads)	8–8	450	1 1/8 x 1 7/16 x 2 1/2	**1.80**

High Voltage CARDBOARD DRY ELECTROLYTICS



TYPE EC

Sprague EC's are the finest, most reliable replacements on the market — designed for those who demand the very best it is possible to obtain, regardless of cost. Each condenser is DOUBLE TESTED. Each has a full 600-volt rating plus an EXTRA SAFETY FACTOR. Watch them build up to 650, 670 volts or even more without danger and with extremely low leakage. Double-seal, moisture-proof protection. When you use EC's you're sure the voltage is right—the highest for any job. Capacity is all you need consider.

Type EC

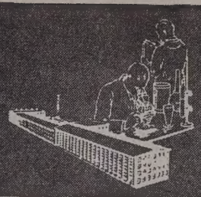
Double Tested—Shortproof—No Need to Check Surges

Continuous Working Voltage 475 Volts
Maximum Surge Voltage 600 Volts

Catalog No.	Capacity Mfd.	Dimensions	List Price
EC-2	2	2 1/2 x 5/16 x 5/16	**$1.15**
EC-4	4	2 1/2 x 1 1/16 x 1 1/16	**1.40**
EC-8	8	2 1/2 x 1 3/8 x 1 3/8	**1.65**

We reserve the right—during the present emergency—to change mechanical specifications without notice.

SPRAGUE Condensers



SPRAGUE *Miscellaneous* PAPER CONDENSERS

Fully reliable and inexpensive, paper substitutes for dry electrolytics. The actual capacity is one-third to one-half that of a Dry Electrolytic in the same size container. Leakage and power factor are extremely low. No polarity has to be observed.

Types DR and RP are ideal for replacements in high voltage public address systems, power amplifiers and high voltage filter circuits.

Type DR

Catalog No.	Replacem't Cap. Mfd.	Working Voltage	Dimensions	List Price
DR-4	4	600	4⅜ x 1⅜	**$1.65**
DR-8	8	600	4⅜ x 1⅜	**2.10**
DR-88	8–8	600	4⅜ x 1½	**3.40**

Type RP

Catalog No.	Replacem't Cap. Mfd.	Working Voltage	Dimensions	List Price
RP-8	8	600	4⅛ x 1⅜ x 15/16	**1.95**
RP-88	8–8	600	4⅜ x 1 9/16 x 15/16	**3.20**

Type UC

For Low Cost Xmitting Units and Many Other Uses

Rugged, dependable yet truly economical high-voltage condensers for use up to 1000 volts. Oil impregnated—wax filled—fully cased and sealed. Mounting flanges may be cut off when not needed. Unconditionally guaranteed at rated voltages.

Catalog No.	Capacity Mfd.	D.C. Volt	Dimensions	List Price
UC-54	0.5	400	2⅛ x 1⅜ x ⅝	**$0.60**
UC-14	1	400	2⅛ x 1⅝ x ⅝	**.90**
UC-24	2	400	2⅛ x 1⅝ x 1	**1.40**
UCL-24	2	400	3¼ x 1⅝ x 13/16	**1.40**
UC-16	1	600	2⅛ x 1 13/16 x 1	**1.10**
UC-26	2	600	3¼ x 1⅞ x 1 3/16	**1.65**
UC-46	4	600	4¼ x 1⅞ x 1¼	**3.00**
UC-18	1	800	3¼ x 1⅞ x 1 3/16	**1.50**
UC-28	2	800	4¼ x 2¼ x 1 7/16	**2.40**
UC-11	1	1000	4¼ x 1⅞ x 1¼	**1.80**
UC-21	2	1000	4¼ x 2 7/16 x 1¾	**3.00**
UC-41	4	1000	4¼ x 2 7/16 x 3½	**5.40**

Type BP

Enclosed in drawn metal case—proofed against heat and moisture by the special Sprague waxing process.

Test Voltage 1200 **Working Voltage 400**
Peak Voltage 600

Catalog No.	Capacity Mfd.	Dimensions	Mtg. Dim.	List Price
BP-1	.1	1¾ x 1 x ¾	2⅛	**$0.80**
BP-25	.25	1¾ x 15/16 x 13/16	2⅛	**.90**
BP-50	.5	2 x 1¼ x ¾	2⅜	**1.15**
BP-10	1.0	2 x 1¾ x 1	2⅜	**1.50**
BP-21	.1-.1	1¾ x 15/16 x 13/16	2⅛	**1.00**
BP-225	.25-.25	2 x 1¼ x ¾	2⅜	**1.20**
BP-250	.5-.5	2 x 1¾ x 1	2⅜	**1.50**
BP-31	.1-.1-.1	2 x 1 x ¾	2⅜	**1.30**
BP-41	.1-.1-.1-.1	2 x ¾ x 1 3/16	2⅜	**1.70**

Type SW

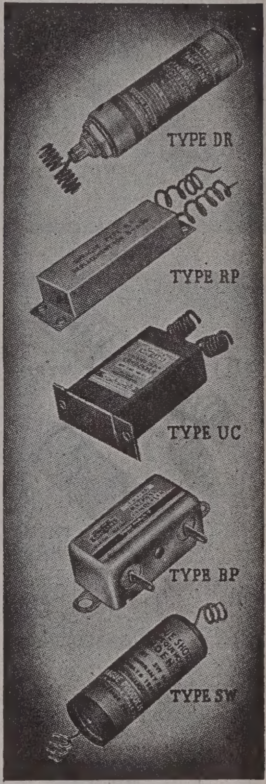
High Voltage - Short Wave High Frequency Oil Impregnated Condensers

Splendid mica substitutes when used as: (1) By-pass condensers; (2) Blocking condensers; (3) Antenna-coupling condensers; (4) Buffer condensers (Mercury Vapor Tubes); (5) in filter for phone use and (6) for grounding rotors.

Metal encased — non-inductive — extremely low power factor—oil impregnated—1500 V. and 1000 V.D.C. rating.

Guaranteed Unconditionally When Used as Specified

Catalog No.	Capacity	Working Voltage	Dimensions D. L.	List Price
SW-22	.002	1500	9/16 x 1 9/16	**$0.55**
SW-25	.005	1500	⅝ x 1 11/16	**.55**
SW-11	.01	1500	11/16 x 1 11/16	**.85**
SW-12	.02	1500	⅞ x 1 11/16	**.90**
SW-15	.05	1000	⅞ x 2¼	**1.00**
SW-1	0.1	1000	⅞ x 2¼	**1.1)**



TYPE WR HIGH-VOLTAGE DRY ELECTROLYTIC CAPACITORS TO REPLACE WET ELECTROLYTICS

D.C. Peak Voltage—600 Volts

Catalog No.	Capacity Mfd.	Dimensions	List Price
WR-8	8	1 x 4¼	**$1.25**
WR-16	16	1¼ x 4⅝	**1.70**

These sturdy dry electrolytic condensers have been specifically designed for wet electrolytic condenser replacements which have been rendered unavailable because of wartime shortages. They are fully reliable. Use them without fear of failure!

TYPE EL SELF-MOUNTING DRY ELECTROLYTICS

Type EL. These condensers are assembled in uninsulated, aluminum cans that have a self-mounting feature, wherein the mounting ear is bent back under the chassis. Connections are made to lug terminals. Each terminal is coded with a character, punched into the cover. For insulating the can, use a bakelite mounting plate that can be furnished at a list price of $0.05 each. When ordering specify the diameter of the can. Metal mounting plates can also be furnished at a list price of $0.05 each.

SINGLE SECTION

Catalog No.	Capacity Mfd.	D.C. Working Voltage	Dimensions D. L.	List Price
EL-1	10	450	1 x 2	**$0.90**
EL-15	15	450	1 x 2	**1.20**
EL-2	20	450	1 x 2	**1.35**
EL-4	40	450	1 x 3	**1.95**
EL-5	50	350	1 x 3	**1.75**
EL-6	60	250	1 x 3	**1.45**
EL-14	40	200	1 x 3	**1.10**

DUAL SECTION

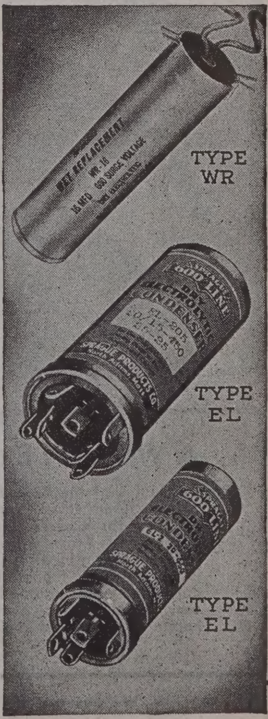
Catalog No.	Capacity Mfd.	D.C. Working Voltage	Dimensions D. L.	List Price
EL-210	10–10	450	1 x 2	**$1.45**
EL-151	15–10	450	1 x 2	**1.60**
EL-220	20–20	450	1 x 3	**2.00**
EL-240	40–40	450	1⅜ x 3	**3.20**
EL-32	30–20	350	1 x 3	**1.75**
EL-22	20/20	300/25	1 x 2	**1.35**
EL-120	20–20	250	1 x 2	**1.35**
EL-221	20–20	150	1 x 2	**1.20**
EL-35	30–50	150	1 x 3	**1.50**
EL-24	40–20	150	1 x 2	**1.35**
EL-25	50–50	150	1 x 3	**1.60**
EL-26	60–60	150	1⅜ x 3	**1.80**

TRIPLE SECTION

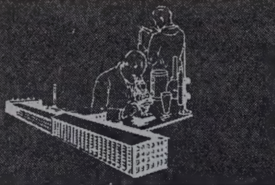
Catalog No.	Capacity Mfd.	D.C. Working Voltage	Dimension D. L.	List Price
EL-310	10–10–10	450	1 x 3	**$1.90**
EL-420	20–20–20	450	1⅜ x 3	**3.30**
EL-202	10–10/20	450/25	1 x 3	**1.60**
EL-215	15– 5/15	450/350	1 x 3	**1.80**
EL-205	20–15/20	450/25	1⅜ x 2	**2.05**
EL-322	20–20/20	400/25	1 x 3	**2.10**
EL-102	10–10/20	350/25	1 x 2	**1.35**
EL-153	15–10/20	350/25	1 x 2	**1.40**
EL-212	20–10/20	350/25	1 x 3	**1.60**
EL-320	20–20–20	150	1 x 2	**1.45**
EL-224	40–20–20	150	1 x 2½	**1.65**
EL-340	40–40–40	150	1 x 3	**1.90**
EL-222	20–20/20	150/25	1 x 3	**1.35**
EL-43	30–40/25	150/25	1 x 2	**1.60**

QUADRUPLE SECTION

Catalog No.	Capacity Mfd.	D.C. Working Voltage	Dimension D. L.	List Price
EL-431	10–10–10/20	450/25	1⅜ x 2	**$2.05**
EL-415	20–10– 5/10	350/25	1⅜ x 2	**1.80**
EL-422	40–20–10/20	200/25	1⅜ x 3	**1.90**



We reserve the right—during the present emergency—to change mechanical specifications without notice.

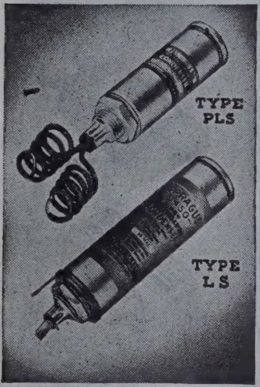


SPRAGUE Condensers

TYPE SB CARDBOARD TUBE CONDENSERS

Type SB Cardboard Tube. For the past few years, we have found set manufacturers using types similar to our SB series shown below. The four capacities shown are popular and will serve as excellent universal replacements where this type of condenser is encountered.

Catalog No.	Capacity Mfd.	Working Voltage	Surge Voltage	Dimensions	List Price
SB-88	8–8	450	525	1½ x 3⅛	**$1.65**
SB-816	8–16	450	525	1½ x 3⅛	**2.00**
SB-216	16–16	450	525	1½ x 4⅜	**2.40**
SB-1216	12–16	200	225	1½ x 3⅛	**1.90**



Can Type DRY ELECTROLYTICS 450 VOLTS

Type PLS

"Tiny Mike". Exceptional quality in extremely small size made possible by the use of the exclusive Sprague etched foil process. Mount in any position. Standard mounting by threaded bushing on can. Can is completely insulated.

Working Voltage 450 V. **Surge Voltage 525 V.**

Catalog Number	Cap. Mfd.	Work. Volt.	Dimensions	List Price
PLS-4 (2 leads)	4	450	1 x 2¾	**$1.05**
PLS-8 (2 leads)	8	450	1 x 3	**1.30**
PLS-12 (2 leads)	12	450	1 x 3	**1.70**
PLS-16 (2 leads)	16	450	1 x 3	**1.90**
PLS-48 (4 leads)	4–8	450	1⅜ x 3	**1.75**
PLS-88 (4 leads)	8–8	450	1½ x 3	**1.95**
PLS-888 (6 leads)	8–8–8	450	1½ x 4⅜	**2.80**
PLS-816 (4 leads)	8–16	450	1½ x 4⅜	**2.50**
PLS-216 (4 leads)	16–16	450	1½ x 4⅜	**2.60**

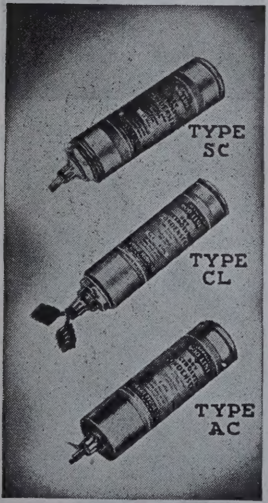
Type LS

Popular for replacing older can type capacitors. Mount in any position. Standard mounting through chassis by threaded bushing on can. Packed with mounting hardware and insulating washers. Special ring mounting clamps provided for upright mounting, or for mounting with can partly extending through panels or chassis.

Type LS units have the can as negative terminal, and lug terminals for anode connections.

Working Voltage 450 **Surge Voltage 525 V.**

Catalog Number	Cap. Mfd.	Work. Volt.	Dimensions	List Price
LS-8	8	450	1⅜ x 4 7/16	**$1.30**
LS-16	16	450	1⅜ x 4 7/16	**1.90**
LS-88 (2 lugs)	8–8	450	1⅜ x 4 7/16	**1.95**



Can Type DRY ELECTROLYTICS 600 VOLTS

Extremely durable can type dry electrolytics especially designed for the exacting requirements of public address and power amplifier work. High surge voltage rating provides extra safety in high current power supplies where high peaks often occur. Unexcelled for those "extra tough" service replacement uses.

Type SC:

Inverted Screw Can Mounting. Provided with threaded bushing for standard mounting in any position. Can is the negative terminal in all units. Positive terminal is lug connection. Supplied with mounting nuts, and insulating washer to insulate can from chassis. Special ring clamps for upright mounting supplied.

Continuous Working Voltage 475 Volts
Maximum Surge Voltage 600 Volts

Catalog Number	Capacity Mfd.	Dimensions	List Price
SC-8	8	1⅜ x 4 7/16	**$1.80**
SC-16	16	1½ x 4 7/16	**2.80**
SC-88 (can neg.)	8–8	1½ x 4 7/16	**2.90**

Type CL:

Inverted Screw Mounting. Can insulated from sections. Separate positive and negative terminal leads for each section.

Continuous Working Voltage 475 Volts
Maximum Surge Voltage 600 Volts

Catalog Number	Capacity Mfd.	Dimensions	List Price
CL-8 (2 leads)	8	1⅜ x 4 7/16	**$1.80**
CL-16 (2 leads)	16	1½ x 4 7/16	**2.80**
CL-88 (4 leads)	8–8	1½ x 5	**2.90**

Type AC:

Aluminum Can—Upright Mounting. Standard mounting is by a ring clamp supplied with all units. Can be mounted in any position, without regard for old mounting holes or centers.

Can is common negative connection on all units. Extremely low power factor and low leakage.

Continuous Working Voltage 475 Volts
Maximum Surge Voltage 600 Volts

Catalog Number	Capacity Mfd.	Dimensions	List Price
AC-8	8	1⅜ x 4 7/16	**$1.80**

A Word of Explanation About Today's Condenser Types

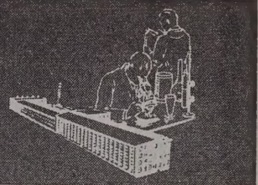
The fact that the Sprague Army-Navy "E" flag carries three stars representing four separate citations for conspicuous performance in meeting critical Army-Navy capacitor and resistor requirements tells plainer than words just why it is temporarily impossible to list many of the capacitor types normally supplied for general use. However, the available types cataloged herein have proved their adaptability to meet practically every requirement and can be relied upon for all recommended applications without reservation.

Meanwhile, you can count on it that general distribution of the complete Sprague line, including many important new types developed as a result of intensified wartime engineering, will be resumed at the earliest possible moment.

Sprague Products Co., North Adams, Mass.

We reserve the right—during the present emergency—to change mechanical specifications without notice.

SPRAGUE Condensers



SPRAGUE FIXED MICA CONDENSERS

Stamped with Capacity Ratings

Wartime shortages and restrictions on critical material make it impossible to supply the usual complete line of famous Sprague Mica Capacitors. However, should restrictions be lifted before this Catalog can be revised do not hesitate to ask for other types which, of course, will be produced at the earliest possible moment.

For safety selection of Mica Capacitor voltage rating the Sprague Color Code as follows has been adopted:

GREEN LABEL . . . . 1000 volts
BLUE LABEL . . . . . 2500 volts
RED LABEL . . . . . . 5000 volts

Type 7FM

Working Voltage—600 D.C. Test Voltage—1000

Catalog Number	Capacity Mfd.	List Price	Catalog Number	Capacity Mfd.	List Price
7FM-45	.00005	$0.75	7FM-24	.004	$1.05
7FM-31	.0001	.75	7FM-25	.005	1.05
7FM-315	.00015	.75	7FM-26	.006	1.20
7FM-32	.0002	.75	7FM-28	.008	1.45
7FM-325	.00025	.75	7FM-11	.01	1.70
7FM-35	.0005	.75	7FM-12	.02	2.25
7FM-21	.001	.75	7FM-125	.025	2.80
7FM-215	.0015	.80	7FM-13	.03	3.00
7FM-22	.002	.80	7FM-14	.04	3.90
7FM-23	.003	1.05	7FM-15	.05	4.65

Type 8FM

Working Voltage—1250 D.C. Test Voltage—2500

Catalog Number	Capacity Mfd.	List Price	Catalog Number	Capacity Mfd.	List Price
8FM-45	.00005	$0.85	8FM-23	.003	$1.90
8FM-31	.0001	.85	8FM-24	.004	1.90
8FM-315	.00015	.85	8FM-25	.005	2.10
8FM-32	.0002	.85	8FM-26	.006	2.10
8FM-325	.00025	.85	8FM-28	.008	2.70
8FM-35	.0005	.85	8FM-11	.01	3.40
8FM-21	.001	1.10	8FM-115	.015	4.05
8FM-215	.0015	1.40	8FM-12	.02	4.75
8FM-22	.002	1.65	8FM-125	.025	5.30

Type 1FM - 2FM. Remarkably resistant to moisture. Power factor is extremely low and stable and voltage ratings are fully guaranteed. Wire leads can be looped for "eyelet" mounting.

Intermediate Capacities Available

Catalog Number	Capacity Mfd.	Working Voltage	List Price
1FM-45	.00005	600	$0.20
1FM-31	.0001	600	.20
1FM-315	.00015	600	.25
1FM-32	.0002	600	.25
1FM-325	.00025	600	.25
1FM-335	.00035	600	.25
1FM-35	.0005	600	.25
1FM-37	.0007	600	.25
1FM-21	.001	600	.30
1FM-215	.0015	600	.40
1FM-22	.002	600	.45
1FM-23	.003	600	.50
1FM-24	.004	600	.55
1FM-25	.005	600	.70
1FM-26	.006	600	.75
2FM-44	.00004	300	.20
2FM-45	.00005	300	.20
2FM-475	.000075	300	.20
2FM-31	.0001	300	.20
2FM-315	.00015	300	.25
2FM-32	.0002	300	.25
2FM-325	.00025	300	.25
2FM-35	.0005	300	.25

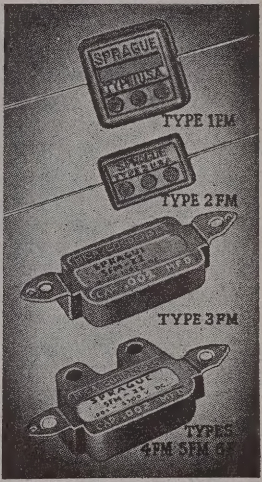
Types 3FM, 4FM, 5FM and 6FM illustrated cannot be made available for civilian use until wartime restrictions are lifted.

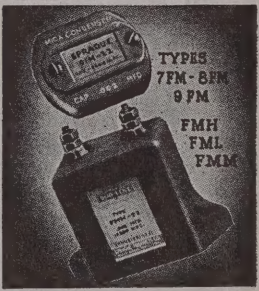
Type 9FM

Working Voltage—2500 D.C. Test Voltage—5000

Catalog Number	Capacity Mfd.	List Price	Catalog Number	Capacity Mfd.	List Price
9FM-45	.00005	$1.10	9FM-22	.002	$2.70
9FM-31	.0001	1.10	9FM-23	.003	3.30
9FM-315	.00015	1.20	9FM-24	.004	3.80
9FM-32	.0002	1.30	9FM-25	.005	4.00
9FM-325	.00025	1.30	9FM-26	.006	4.20
9FM-35	.0005	1.50	9FM-28	.008	4.60
9FM-21	.001	1.80	9FM-11	.01	4.95
9FM-215	.0015	2.35			

Types FMH, FML and FMMillustrated are temporarily unavailable.





Molded in low loss bakelite. Moisture - proof. Designed for mounting directly by the wiring or by screws on insulators or insulating panels. Threaded screw bushings on both sides tapped for 6-32 machine screw. Supplied in 1000, 2500, and 5000 DC v. test.

New SPRAGUE MICA Capacitors

TEST VOLTAGE—1000 VOLTS D. C.

Catalog Number	Capacity Mfd.	Working Voltage	List Price
XFM-45	.00005	600v	$0.60
XFM-31	.0001	600v	.60
XFM-32	.0002	600v	.60
XFM-325	.00025	600v	.60
XFM-33	.0003	600v	.60
XFM-34	.0004	600v	.60
XFM-35	.0005	600v	.60
XFM-21	.001	600v	.60
XFM-215	.0015	600v	.60
XFM-22	.002	600v	.70
XFM-225	.0025	600v	.80
XFM-23	.003	600v	.85
XFM-24	.004	600v	.85
XFM-25	.005	600v	.85
XFM-26	.006	600v	1.05
XFM-28	.008	600v	1.20
XFM-11	.01	600v	1.40
XFM-115	.015	600v	1.65
XFM-12	.02	600v	1.90
XFM-125	.025	600v	2.30
XFM-13	.03	600v	2.55

TEST VOLTAGE—2500 VOLTS D. C.

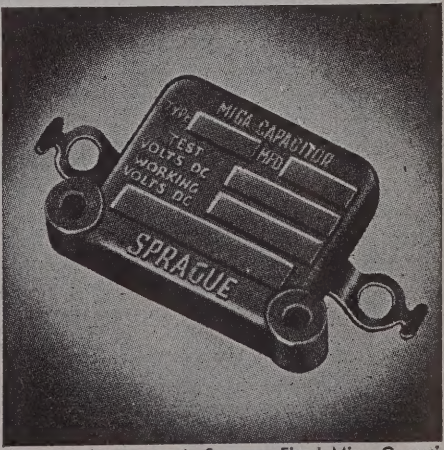
Catalog Number	Capacity Mfd.	Working Voltage	List Price
YFM-45	.00005	1200v	$0.85
YFM-31	.0001	1200v	.85
YFM-32	.0002	1200v	.85
YFM-325	.00025	1200v	.85
YFM-33	.0003	1200v	.85

TEST VOLTAGE—2500 VOLTS D. C.
(Continued)

Catalog Number	Capacity Mfd	Working Voltage	List Price
YFM-35	.0005	1200v	$0.85
YFM-21	.001	1200v	1.10
YFM-215	.0015	1200v	1.40
YFM-22	.002	1200v	1.65
YFM-225	.0025	1200v	1.75
YFM-23	.003	1200v	1.90
YFM-24	.004	1200v	1.90
YFM-25	.005	1200v	2.10
YFM-26	.006	1200v	2.10
YFM-28	.008	1200v	2.70
YFM-11	.01	1200v	3.40

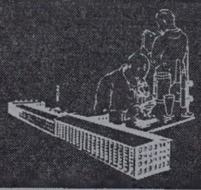
TEST VOLTAGE—5000 VOLTS D. C.

Catalog Number	Capacity Mfd.	Working Voltage	List Price
ZFM-45	.00005	2500v	$1.10
ZFM-31	.0001	2500v	1.10
ZFM-32	.0002	2500v	1.30
ZFM-325	.00025	2500v	1.30
ZFM-33	.0003	2500v	1.35
ZFM-35	.0005	2500v	1.50
ZFM-21	.001	2500v	1.80
ZFM-215	.0015	2500v	2.35
ZFM-22	.002	2500v	2.70
ZFM-225	.0025	2500v	3.00
ZFM-23	.003	2500v	3.30
ZFM-24	.004	2500v	3.80
ZFM-25	.005	2500v	4.00

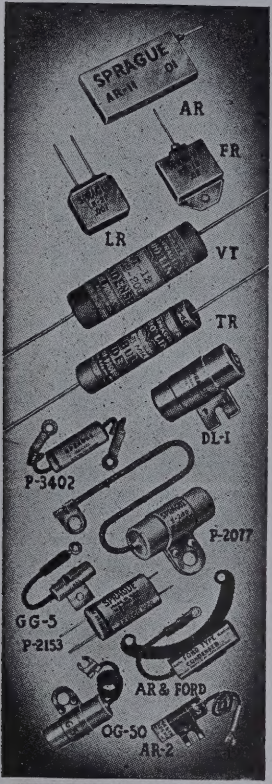


For several years past, Sprague Fixed Mica Capacitors have been meeting the most exacting demands as original equipment on the finest radio and electronic devices. They are now made generally available at standard prices and incorporating quality features unexcelled in the field. Units are carefully molded in low-loss phenolic and are scientifically protected against moisture.

We reserve the right—during the present emergency—to change mechanical specifications without notice.



SPRAGUE Condensers



Auto RADIO CONDENSERS

Vibrator Condensers (Oil Impregnated). These sturdy new oil-impregnated units are your guarantee against troubles due to broken-down vibrator condensers. Fully sealed in durable metal cans.

Working Voltage 1600 Volts D. C.

Catalog Number	Capacity Mfd.	Dimensions	List Price
AR-11	.01	1 11/16 x 13/16 x ¼	**$0.55**
AR-12	.02	1 11/16 x 13/16 x ¼	**.55**
AR-13	.03	1 11/16 x 13/16 x ¼	**.55**
AR-14	.04	1 11/16 x 13/16 x ¼	**.55**
AR-15	.05	1 11/16 x 13/16 x ¼	**.55**
MV-11	.01	3 x 9/16 x ⅜	**.55**
LR-27	.007	1 1/16 x ⅞ x ¼	**.55**
LR-11	.01	1 1/16 x ⅞ x ¼	**.55**
LR-12	.02	1 1/16 x ⅞ x ¼	**.55**

Type VT
High Voltage—High Quality Tubulars

Catalog Number	Capacity Mfd.	Working Voltage	Dimensions	List Price
VT-27	.007	2000v	⅝ x 1⅝	**$0.55**
VT-11	.01	2000v	⅝ x 2⅛	**.55**
VT-12	.02	2000v	¾ x 2⅛	**.55**

Type TR - High-Voltage Tubulars
Oil Impregnated—Wax Filled

Designed for Buffers or other high-voltage uses.

Working Voltage 1600 Volts D. C.

Catalog Number	Capacity Mfd.	Mounting Dimensions	List Price
TR-35	.0005	⅜ x 1¼	**$0.45**
TR-21	.001	⅜ x 1⅜	**.45**
TR-22	.002	⅜ x 1⅜	**.45**

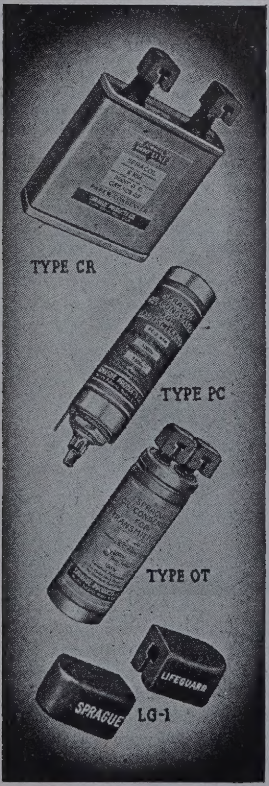
Catalog Number	Capacity Mfd.	Mounting Dimensions	List Price
TR-23	.003	½ x 1½	**$0.45**
TR-24	.004	9/16 x 1½	**.45**
TR-25	.005	9/16 x 1⅝	**.45**
TR-26	.006	9/16 x 1⅝	**.45**
TR-27	.007	9/16 x 1⅝	**.45**
TR-28	.008	⅝ x 1⅝	**.45**
TR-11	.01	½ x 2	**.45**
TR-12	.02	9/16 x 2	**.45**
TR-13	.03	⅞ x 2⅛	**.45**
TR-14	.04	15/16 x 2⅛	**.50**
TR-15	.05	15/16 x 2⅛	**.55**

Specially designed to withstand intense vibration and heat. Full capacity—true voltage ratings.

TYPE	List Price
DL-1—Dome Light Filter	**$1.00**
GG-5—Gas Gauge Filter	**.60**
OG-50—Oil Gauge Filter	**.60**
P-2077—Ford Replacement Condenser	**.60**
P-2153—Motorola Replacement Condenser, 2 x .0008 mfds.	**.55**
P-3402—Ammeter Condenser, .5 mfd., size ⅝ in. x 2 in.	**.55**

Type AR and FORD TYPE
Test Voltage—600 **Working Voltage—400**

Catalog Number	Capacity Mfd.	Dimensions Inches	List Price
AR-1	1.0	2¼ L. x 1 Dia.	**0.85**
AR-2	.5	2 L. x 11/16 Dia.	**.60**
Ford Type	.5	2 L. x 11/16 Dia.	**.60**
AR-25	.5-.5	2¼ L. x 1 Dia.	**.90**



Transmitting CONDENSERS

Play safe on high voltages the practical way! Insist on Spragues . . . the only Transmitting Condensers equipped with the new "lifeguard" Terminal Insulation Caps.

Terminals are insulated from cans for at least twice the working voltage; condensers are placed in complete metal cans which can be automatically grounded through the mounting clamps; and all condensers are oil impregnated—oil filled with SPRACOL, the famous Sprague 500 degree F. flash protection oil (not oil impregnated and **wax** filled)! Oil-**FILLED** units are essential for high voltage use.

New Type CR With Universal Mounting. To meet the demand for fully reliable, full quality Sprague Transmitting Condensers in small, rectangular size and wth adjustable flanges for mounting in any position, we are pleased to announce the new Type CR. Like the famous Sprague Transmitting units of the past, they are oil impregnated and oil filled, cylindrically wound, perfectly sealed, and labelled with complete operating information based on A. R. R. L. standards. Ample safety factor is assured—no need to "play safe" by buying higher voltage units than required. **Unconditionally guaranteed against breakdown when used as specified.**

Catalog Number	Capacity Mfd.	D. C. Working Voltage	Can Size	List Price
CR-16	1	600	1 x 1¾ x 2¼	**$4.20**
CR-26	2	600	1 x 1¾ x 2¾	**5.10**
CR-46	4	600	1 3/16 x 2½ x 3¼	**6.60**
CR-11	1	1000	1 x 1¾ x 2¼	**4.50**
CR-21	2	1000	1 x 1¾ x 3⅞	**6.00**
CR-41	4	1000	1 3/16 x 2½ x 4¾	**7.50**
CR-115	1	1500	1 x 1¾ x 3⅞	**5.40**
CR-215	2	1500	1 3/16 x 2½ x 4¾	**7.50**
CR-415	4	1500	1¼ x 3¾ x 4⅝	**10.20**
CR-12	1	2000	1 3/16 x 2½ x 3¼	**6.60**
CR-22	2	2000	1¼ x 3¾ x 3⅞	**7.80**
CR-42	4	2000	2¼ x 3¾ x 3⅞	**10.80**

Catalog Number	Capacity Mfd.	D. C. Working Voltage	Can Size	List Price
CR-125	1	2500	1¾ x 3¾ x 3⅛	**$9.60**
CR-225	2	2500	1¾ x 3¾ x 4¾	**15.60**
CR-13	1	3000	2¼ x 3¾ x 4⅞	**14.40**
CR-23	2	3000	3 3/16 x 3¾ x 4⅝	**18.00**

Type PC. Inverted Screw Can Round Condensers for P. A. and Transmitter Work, Television and High Gain Amplifiers. Cans are grounded.

Catalog Number	Capacity Mfd.	D. C. Working Voltage	Can Size	List Price
PC-26	2	600	1½ x 2⅞	**$3.30**
PC-46	4	600	1½ x 4½	**4.50**
PC-11	1	1000	1½ x 2⅞	**3.00**
PC-21	2	1000	1½ x 4½	**3.90**

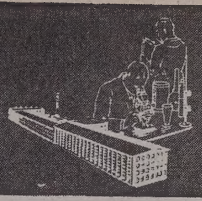
Type OT (Round). Impregnated and filled with Spracol, rated to conform with tube and circuit design. Unconditionally guaranteed when used as specified.

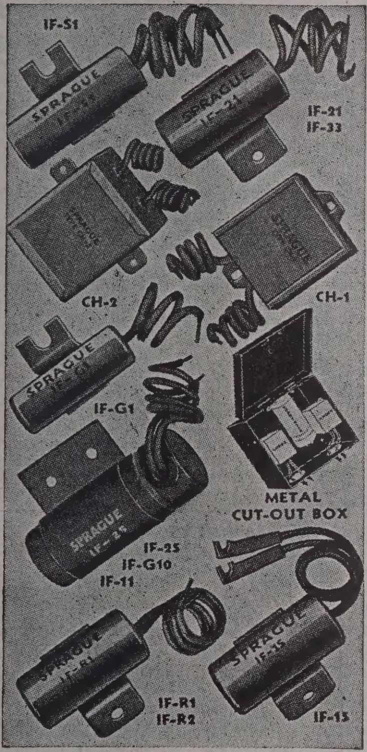
Catalog Number	Capacity Mfd.	D. C. Working Voltage	Surge Voltage	List Price
OT-26	2	600	1000	**$3.90**
OT-11	1	1000	1500	**3.30**
OT-21	2	1000	1500	**4.50**
OT-41	4	1000	1500	**5.70**
OT-515	0.5	1500	2000	**3.30**
OT-115	1	1500	2000	**4.20**
OT-215	2	1500	2000	**5.70**
OT-12	1	2000	3000	**5.40**
OT-22	2	2000	3000	**6.00**
OT-13	1	3000	3500	**10.80**

FREE! Lifeguard Protective Caps are now supplied at no extra cost with every Sprague Xmitting Condenser—or, you can buy them for your old condensers........................**LG-1—List Price Per Pair 30c**

We reserve the right—during the present emergency—to change mechanical specifications without notice.

SPRAGUE Condensers





INTERFERENCE ELIMINATION

CONDENSERS and CHOKES

Type IF-15. A triple section filter for application to all small motors or motor operated devices. Specially designed to prevent accidental shocks from discharge of filter condensers, in accordance with RMA recommendations.

Type IF-25. A double section filter for medium sized motors, and 1 Horsepower motors. Condenser and terminals completely enveloped in metal shield for safety.

Type IF-G1. A compact, metal encased, single section filter for application to each brush of multiple brush generators, rotary convertors, etc. Can and mounting bracket form one terminal of the filter.

Type IF-G10. A high capacity, single section filter, with completely enclosed terminal construction for safety. Used in combination with IF-11 condenser on 3 wire systems, etc.

Type IF-11. A dual high capacity filter, with completely enclosed safety construction. For application to large motors, over 1 Horsepower. Also used on high current arcing or sparking devices. Used with IF-G10 on 3 wire power systems.

Type IF-21 or IF-33. A dual, compact, metal encased tubular filter for use across the brushes of fractional horsepower motors with can grounded to the motor frame. Also used across the line terminals of motors in conjunction with chokes to form a "brute force" filter for stubborn cases of interference.

Type IF-S1. A single, 2 lead, filter section with can completely insulated. For use across make and break contacts.

Type IF-R1. A special resistor-capacitor filter combination for use across arcing, or make and break contacts in inductive circuits where prolonged sparking takes place.

Type IF-R2. Same construction and applications as IF-R1, except used in very highly inductive circuits, where suppression provided by IF-R1 is not sufficient.

Type CH-1, CH-2. High quality, completely metal encased chokes of adequate inductance to provide real filtering action at radio frequencies CH-1 carries up to 10 amps and CH-2 up to 20 amps. CH-1 Mounting centers 2⅛". CH-2 Mounting centers 3 5/16". Both types provided with 8" Pigtail Leads.

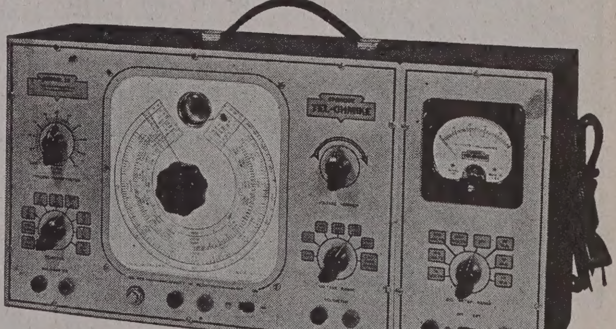
All condensers can be used at 110 volts AC or DC and 220 volts AC or DC.

All Leads 6 inches Long

Catalog Number	Can Size Diameter	List Price*
IF-G1	1⅞″ x 11/16″	**$0.80**
IF-S1	2″ x ¾″	**.90**
IF-33	15/16″ x ⅝″	**.90**
IF-21	2 3/16″ x 1″	**1.20**
IF-15	2¼″ x 1″	**1.50**
IF-R1	2½″ x 1″	**1.70**
IF-R2	2½″ x 1″	**1.70**
IF-G10	3¼″ x 1 5/16″	**2.40**
IF-25	3½″ x 1⅜″	**2.70**
IF-11	4¼″ x 1½″	**3.45**
CH-1	3⅛″ x 1⅞″ x 1½″	**1.65**
CH-2	3″ x 2½″ x 2¼″	**3.30**

SPRAGUE *De Luxe* TEL-OHMIKE CONDENSOR-RESISTOR ANALYZER

The handiest, most complete instrument of its kind. Permits a complete, easy check on EVERY basic characteristic of EVERY type of condenser and resistor—on direct reading scales that eliminate guesswork. Measures capacity from .000010 to 2000 mfd. covering everything from minimum air condenser capacities to large motor-starting condensers. Measures DC resistance from .5 to 5,000,000 ohms and insulation resistance up to 10,000 megohms—the highest insulation resistance scale available on such an instrument. Thus, the insulation resistance of such components as Oil Condensers can be measured DIRECTLY on the Tel-Ohmike under high voltage up to 1000 volts! Power factor and leakage current of electrolytic condensers are also read directly. A built-in power supply permits measurement of ALL characteristics under DIRECT WORKING VOLTAGE CONDITIONS up to 1000 volts DC. A "magic eye" indicator shows bridge circuit balance. Condenser Characteristics Table included with complete instructions for use.

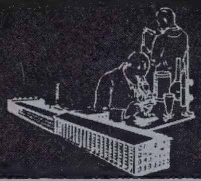


DE LUXE MODEL

Contains built-in DC volt-milliammeter. Switch and pin-jacks provided so meter may be used on measurements external to the Tel-Ohmike. Meter ranges selected through an 8-position switch include 15, 150, 500, 1500 volts DC, and 1.5, 15 and 50 ma. DC. "Off" position is provided between the voltage and ma. ranges. Ranges graduated downward on either side for maximum meter safety. A rugged, double pivot meter and a broad, easily-read meter scale are used. Dimensions: 17½" x 9" x 6.". Weight 14 lbs.

Cat. No. TO-2
$44.90 Net

We reserve the right—during the present emergency—to change mechanical specifications without notice.



SPRAGUE *KOOLOHM RESISTORS

*Trademark Reg. U. S. Pat. Office

NO OTHER RESISTOR TYPE CAN EVEN COME CLOSE TO MATCHING THESE ADVANTAGES . . . *Extra Humidity Protection Now Standard*

The exclusive Koolohm construction utilizing a glazed ceramic outer shell and new moisture and fungus proof end seals eliminates the possibility of humidity and corrosion, even under tropical conditions. This EXTRA PROTECTION was formerly supplied only on special order. Now it is STANDARD on ALL Sprague Koolohms, being identified by the letter "T" added to the old type designation.

"T" for Tropicalized

As always, all Koolohm designs are based on the use of insulated resistance wire. Every inch of wire is continuously and uniformly insulated **before winding** with an exclusive **ceramic** coating capable of standing red heat. This provides excellent insulation. No danger of shorted turns! **Koolohms operate at lower surface temperatures than coated resistors of the same size and power rating.**

This perfect high temperature ceramic wire insulation permits layer wound construction, making possible the use of larger diameter wire for the high resistance values. The exclusive use of progressive winding on high values permits use of wire sizes 2¼ TIMES GREATER IN CROSS SECTIONAL AREA than those in ordinary resistors of the same size. Koolohm windings need no overall insulation but, for extra mechanical protection, they are enclosed in a rugged, moisture-proof ceramic shell which is also a high-voltage insulator. **Koolohms can be mounted in direct contact with chassis or other *grounded parts!***

Koolohms dissipate full wattage ratings regardless of the resistance value. Use them at their full wattage ratings. They stand the gaff—because no fine wires or enamels are used.

Non-inductive Resistors

The perfect ceramic wire insulation on non-inductive Koolohm resistors allows intricate layer and interlaced windings and permits non-inductive windings to be produced with the lowest residual characteristics of any power resistors available. Each turn of wire has its inductance cancelled by an immediately adjacent turn carrying current going in the opposite direction.

5% Accuracy Guaranteed!

Where else can you get power resistors made to a standard tolerance of 5%—with an accuracy of 5% **or better** guaranteed? The perfect insulation on Koolohm ceramic-insulated resistance wire eliminates the possibility of shorted turns in manufacture and permits much better control of resistance accuracy.

5 WATTS

1$\frac{7}{32}$" x $\frac{15}{32}$" Diameter
Catalog Types 5KT and 5NIT (Non-Inductive)

List Price 5KT	Resistance Ohms	Maximum Current M.A.	Maximum Volts	**List Price 5NIT** (Non-Inductive)
$0.40	5	1000	5.00	**$0.80**
.40	10	707	7.07	**.60**
.40	15	587	8.67	**.60**
.40	20	500	10	**.60**
.40	25	446	11	**.60**
.40	30	406	12	**.60**
.40	40	354	14	**.60**
.40	50	316	15	**.60**
.40	75	258	19	**.60**
.40	100	224	22	**.60**
.40	150	183	27	**.60**
.40	200	158	31	**.60**
.40	250	141	35	**.60**
.40	300	129	38	**.60**
.40	400	112	44	**.60**
.40	500	100	50	**.60**
.40	600	91	54	**.60**
.40	700	84	59	**.60**
.40	800	79	63	**.60**
.40	900	74	67	**.60**
.40	1000	70	70	**.60**
.40	1250	63	79	**.60**
.40	1500	57	86	**.70**
.40	1750	53	93	**.70**
.40	2000	50	100	**.70**
.40	2500	44	112	**.70**
.40	3000	40	123	**.75**
.40	4000	35	141	**.75**
.40	5000	31	158	**.75**
.45	6000	28	173	**.80**
.45	7000	26	187	
.45	7500	25	194	
.45	8000	25	200	
.45	9000	23	212	
.45	10000	22	224	
.50	12500	20	250	
.50	14000	18	265	
.50	15000	18	274	
.55	20000	15	333	
.70	25000	14	354	
.75	30000	13	367	
.85	40000	11	447	

10 WATTS

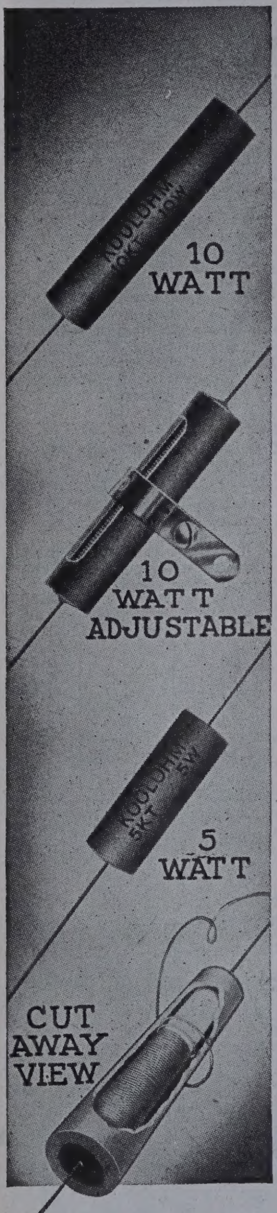
1—$\frac{7}{32}$" x $\frac{15}{32}$" Diameter
Catalog Types 10KT and 10NIT (Non-Inductive)

List Price 10KT	Resistance Ohms	Maximum Current M.A.	Maximum Volts	**List Price 10NIT** (Non-Inductive)
$0.45	5	1414	7.07	**$0.80**
.45	10	1000	10	**.60**
.45	15	830	12.3	**.60**
.45	20	707	14.1	**.60**
.45	25	630	15.8	**.60**
.45	30	575	17.4	**.60**
.45	40	100	20	**.60**
.45	50	447	22.4	**.60**
.45	75	365	27.4	**.60**
.45	100	316	31.6	**.60**
.45	150	259	38.7	**.60**
.45	200	223	44.6	**.60**
.45	250	200	50	**.60**
.45	300	182	54.7	**.60**
.45	400	158	63.3	**.60**
.45	500	141	70.7	**.60**
.45	600	129	77.6	**.60**
.45	700	119	84	**.60**
.45	750	115	86.9	**.60**
.45	800	112	89.5	**.60**
.45	900	105	95	**.60**
.45	1000	100	100	**.60**
.45	1250	89	112	**.70**
.45	1500	81	123	**.70**
.45	1750	75	133	**.70**
.45	2000	70	143	**.70**
.45	2500	63	158	**.75**
.45	3000	57	174	**.75**
.45	4000	50	200	**.75**
.45	5000	44	227	**.80**
.45	6000	41	245	**.90**
.45	7500	36	275	**.90**
.45	8000	35	283	**1.15**
.45	9000	33	300	**1.15**
.45	10000	32	316	**1.15**
.50	12000	29	346	
.50	14000	26	384	
.50	15000	25	400	
.60	17500	24	419	
.60	20000	21	475	
.70	25000	20	500	
.75	30000	18	555	
.90	40000	16	632	
1.00	50000	14	700	
1.25	60000	13	780	
1.40	70000	12	840	

10 WATT Adjustable 1$\frac{27}{32}$" x $\frac{15}{32}$" Type 10AD

Resistance in Ohms	Current M.A.	Maximum Volts	**List Price**	Resistance in Ohms	Current M.A.	Maximum Volts	**List Price**
10	1000	10	**$0.75**	1000	100	100	**$0.75**
26	630	15.8	**0.75**	1500	81	123	**0.75**
50	447	22.4	**0.75**	2000	70	143	**0.75**
100	316	31.6	**0.75**	2500	63	158	**0.75**
150	259	38.7	**0.75**	3000	57	174	**0.75**
200	223	44.6	**0.75**	4000	50	200	**0.75**
250	200	50	**0.75**	5000	44	227	**0.75**
300	182	54.7	**0.75**	7500	36	275	**0.75**
500	141	70.7	**0.75**	10000	32	316	**0.75**
750	115	86.9	**0.75**				

Extra Bands, **$0.10**



The ONLY Resistors Wound with CERAMIC INSULATED WIRE

. . . doubly insulated and "Tropicalized" with a glazed ceramic outer shell and moisture-proof end seals.

25, 50, 120 Watt Sizes, Too!

In addition to the 5 and 10 Watt types listed here, Sprague Koolohms are made in a complete line of 25, 50 and 120 watt sizes. Ask for complete Sprague Koolohm Catalog.

We reserve the right—during the present emergency—to change mechanical specifications without notice.

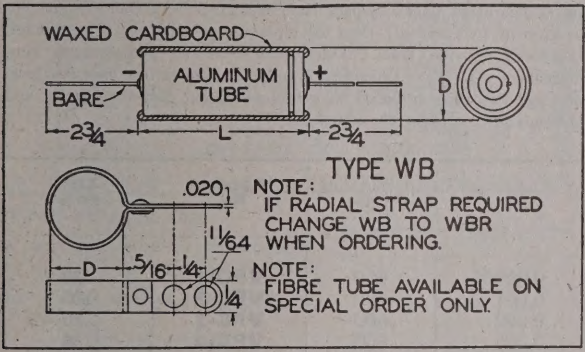
Condensers

P. R. MALLORY & CO. Inc.
MALLORY

DRY ELECTROLYTIC TUBULAR ALUMINUM-CASED TYPES WB

MALLORY
TYPE WB-51
8MFD. 300V
U. S. PATS.
POSITIVE +

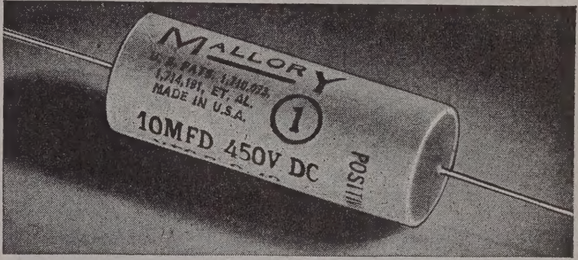
● Type WB capacitors are supplied in hermetically sealed aluminum tubes with waxed cardboard outer sleeves. They are suitable for all general applications within the specifications shown below. Particularly noteworthy are their excellent low-temperature characteristics. They may be obtained with radial strap for mounting, if desired, by specifying type WBR.



NOTE: IF RADIAL STRAP REQUIRED CHANGE WB TO WBR WHEN ORDERING.

NOTE: FIBRE TUBE AVAILABLE ON SPECIAL ORDER ONLY.

DRY ELECTROLYTIC TUBULAR "VICTORY LINE" TYPES VEC



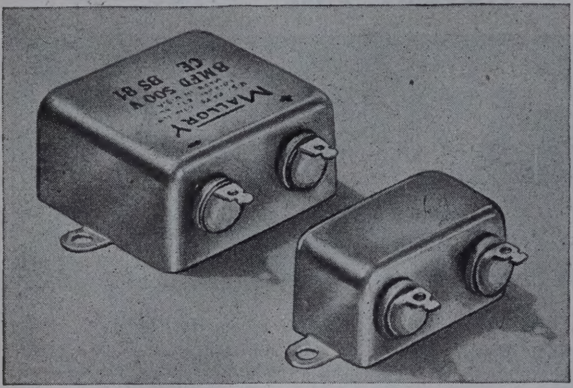
● This standardized line, approved by the War Production Board and produced in conformance with American Standards Association specifications, is of dependable Mallory quality. You can use "Victory Line" condensers for radio service replacement with complete assurance that they will give long, trouble-free performance. Similar to former Mallory BB types, except fewer in number and no aluminum cases.

Capacity Mfd.	DC Working Volts	**Catalog No.**	**List Price**
100	25	**VEC-1**	**$0.85**
10	50	**VEC-2**	**.55**
20	150	**VEC-3**	**.75**
20–20	150	**VEC-4**	**1.30**
50	150	**VEC-5**	**1.10**
20	250	**VEC-6**	**1.00**
10	450	**VEC-7**	**.85**
10–10	450	**VEC-8**	**1.40**
40	450	**VEC-9**	**1.75**
25	25	**VEC-10**	**0.60**

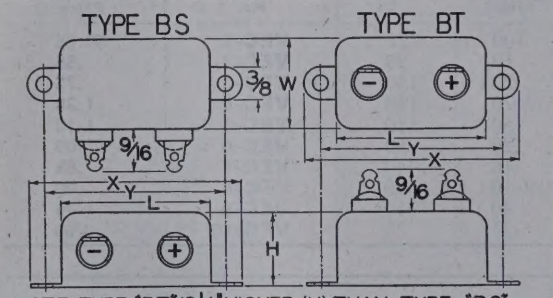
Cap. Mfd.	DC Wkg. Volts	SIZE D L	Max. Surge	120 Cycle Ohms	DC Ma.	Cap. Tol. — 10%	RMS Ripple Volts	RMS Ripple Ma.	Max. Temp.	**Cat. No.**	**List Price**
10	25	11/16 x 1½	40	27	.4	+200%	. . .	. . .	85° C.	**WB22**	**$0.50**
25	25	11/16 x 1½	40	11	.6	+200%	. . .	. . .	85° C.	**WB26**	**.60**
50	25	11/16 x 1½	40	6	.8	+200%	. . .	. . .	85° C.	**WB29**	**.75**
10	50	11/16 x 1½	70	27	.5	+200%	. . .	. . .	85° C.	**WB32**	**.55**
25	50	11/16 x 1½	70	11	.8	+200%	3	45	85° C.	**WB36**	**.70**
50	50	13/16 x 1½	70	6	1.0	+200%	3	90	85° C.	**WB39**	**.85**
8	150	11/16 x 1½	200	25	.6	+100%	11	70	85° C.	**WB41**	**.55**
12	150	11/16 x 1½	200	17	.8	+100%	11	100	85° C.	**WB43**	**.60**
16	150	13/16 x 1½	200	13	.9	+100%	11	135	85° C.	**WB44**	**.70**
24	150	13/16 x 1½	200	8	1.4	+100%	9.5	175	85° C.	**WB46**	**.75**
30	150	13/16 x 1½	200	7	1.6	+100%	8.5	190	85° C.	**WB47**	**.80**
40	150	15/16 x 1½	200	5	1.9	+100%	7	210	85° C.	**WB48**	**.85**
8	300	13/16 x 1½	375	25	.7	+50%	14	85	85° C.	**WB51**	**.75**
12	300	15/16 x 1½	375	17	.9	+50%	13	120	85° C.	**WB53**	**.85**
16	300	15/16 x 1½	375	13	1.0	+50%	11.5	140	85° C.	**WB54**	**1.00**
24	300	1 1/16 x 1½	375	8	1.6	+50%	10	180	85° C.	**WB56**	**1.25**
8	400	15/16 x 1½	475	20	.8	+50%	16	100	85° C.	**WB61**	**.85**
12	400	1 1/16 x 1½	475	14	1.0	+50%	14	130	85° C.	**WB63**	**1.00**
16	400	1 1/16 x 1½	475	10	1.2	+50%	13	160	85° C.	**WB64**	**1.25**
8	450	15/16 x 1½	525	20	.8	+50%	18	110	75° C.	**WB71**	**.75**
10	450	15/16 x 1½	525	16	.9	+50%	16	125	75° C.	**WB72**	**.85**
12	450	1 1/16 x 1½	525	14	1.0	+50%	15	140	75° C.	**WB73**	**.90**
16	450	1 1/16 x 1½	525	10	1.2	+50%	13	160	75° C.	**WB74**	**1.10**

P.R. MALLORY & CO. Inc. MALLORY Condensers

Dry Electrolytic "Bathtub" Types

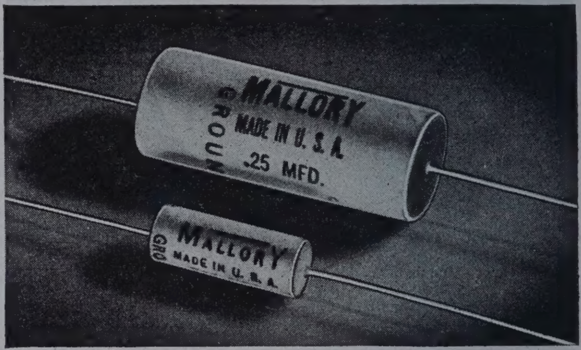


- Types BS and BT capacitors are WB tubulars encased in steel "bathtub" containers for double seal and mechanical strength. The added safety factor obtained by this construction makes these units ideal for the toughest type of service, including high altitudes, vibration, and extreme temperature. Normally supplied with two side terminals and unit internally insulated from case.



NOTE- TYPE "BT" IS 1/8" HIGHER (H) THAN TYPE "BS"
NOTE- TYPE "BT" IS NOT AVAILABLE IN THOSE RATINGS MARKED (★) IN LIST BELOW.
NOTE- IF GROUNDED CASE IS REQ. THE (−) LUG IS OMITTED.

PAPER DIELECTRIC TUBULAR "VICTORY LINE" TYPES VPC



- Standardized paper by-pass line, resulting from the wartime necessity of reducing all lines of replacement parts to a minimum. Approved by the War Production Board, and produced in conformance with the American Standards Association specifications. Ratings have been reduced to a minimum, but Mallory quality and dependability remain the same.

Capacity Mfd.	DC Working Volts	**Catalog No.**	**List Price**
0.00025	600	**VPC-1**	**.20**
0.001	600	**VPC-2**	**.20**
0.002	600	**VPC-3**	**.20**
0.005	600	**VPC-4**	**.20**
0.01	600	**VPC-5**	**.20**
0.02	600	**VPC-6**	**.20**
0.05	600	**VPC-7**	**.25**
0.1	600	**VPC-8**	**.30**
0.25	600	**VPC-9**	**.45**

Cap. Mfd.	DC Wkg. Volts	Size					Max. Surge	120 Cycle Ohms	DC Ma.	Cap. Tol. —10%	RMS Ripple		Max. Temp.	**Cat. No.**	**List Price**
		H	W	L	Y	X					Volts	Ma.			
10	25	¾	1	1¾	2⅛	2½	40	27	.4	+200%	..	...	85° C.	**BS22**	**$2.10**
25	25	¾	1	1¾	2⅛	2½	40	11	.6	+200%	..	...	85° C.	**BS26**	**2.20**
50	25	¾	1	1¾	2⅛	2½	40	6	.8	+200%	..	...	85° C	**BS29**	**2.55**
10	50	¾	1	1¾	2⅛	2½	70	27	.5	+200%	..	...	85° C.	**BS32**	**2.25**
25	50	¾	1	1¾	2⅛	2½	70	11	.8	+200%	3	45	85° C.	**BS36**	**2.40**
50	50	⅞	1	1¾	2⅛	2½	70	6	1.0	+200%	3	90	85° C.	**BS39**	**2.70**
8	150	¾	1	1¾	2⅛	2½	200	25	.6	+100%	11	70	85° C.	**BS41**	**2.10**
12	150	¾	1	1¾	2⅛	2½	200	17	.8	+100%	11	100	85° C.	**BS43**	**2.20**
16	150	⅞	1	1¾	2⅛	2½	200	13	.9	+100%	11	135	85° C.	**BS44**	**2.40**
24	150	⅞	1	1¾	2⅛	2½	200	8	1.4	+100%	9.5	175	85° C.	**BS46**	**2.55**
30	150	⅞	1	1¾	2⅛	2½	200	7	1.6	+100%	8.5	190	85° C.	**BS47**	**2.65**
40	150	1	1¼	1¾	2⅛	2½	200	5	1.9	+100%	7	210	85° C.	**BS48***	**2.75**
8	300	⅞	1	1¾	2⅛	2½	375	25	.7	+50%	14	85	85° C.	**BS51**	**2.30**
12	300	1	1¼	1¾	2⅛	2½	375	17	.9	+50%	13	120	85° C.	**BS53***	**2.75**
16	300	1	1¼	1¾	2⅛	2½	375	13	1.0	+50%	11.5	140	85° C.	**BS54***	**2.90**
24	300	1⅛	1¼	1¾	2⅛	2½	375	8	1.6	+50%	10	180	85° C.	**BS56***	**3.15**
8	400	1	1¼	1¾	2⅛	2½	475	20	.8	+50%	16	100	85° C.	**BS61***	**2.75**
12	400	1⅛	1¼	1¾	2⅛	2½	475	14	1.0	+50%	14	130	85° C.	**BS63***	**2.90**
16	400	1⅛	1¼	1¾	2⅛	2½	475	10	1.2	+50%	13	160	85° C.	**BS64***	**3.15**
8	450	1	1¼	1¾	2⅛	2½	525	20	.8	+50%	18	110	75° C.	**BS71***	**2.75**
10	450	1	1¼	1¾	2⅛	2½	525	16	.9	+50%	16	125	75° C.	**BS72***	**2.85**
12	450	1⅛	1¼	1¾	2⅛	2½	525	14	1.0	+50%	15	140	75° C.	**BS73***	**2.90**
16	450	1⅛	1¼	1¾	2⅛	2½	525	10	1.2	+50%	13	160	75° C.	**BS74***	**3.15**
4	500	⅞	1¾	2	2⅜	2 13/16	700	40	.5	+50%	25	80	85° C.	**BS80***	**3.90**
8	500	1	1¾	2	2⅜	2 13/16	700	20	.8	+50%	22	140	85° C.	**BS81***	**4.25**

Condensers

P.R. MALLORY & CO. Inc.
MALLORY

PAPER DIELECTRIC TUBULAR TYPES TP AND OW

TP=Wax Impregnated Wax Filled. **OW=Oil Impregnated Wax Filled.**

	200 V. DC			400 V. DC			600 V. DC			1000 V. DC			1600 V. DC		
Cap. Mfd.	**Cat. No.**	S	**List Price**	**Cat. No.**	S	**List Price**	**Cat. No.**	S	**List Price**	**Cat. No.**	S	**List Price**	**Cat. No.**	S	**List Price**
.0001	.....	..	....	.....	..	....	**TP401**	1	**$0.20**	.....	..	....	.....	..	...
.00025	.....	..	....	.....	..	....	**TP402**	1	**.20**	.....	..	....	.....	..	...
.0005	.....	..	....	.....	..	....	**TP403**	1	**.20**	.....	..	....	**OW340**	4	**$0.45**
.001	.....	..	....	.....	..	....	**TP404**	1	**.20**	**TP455**	1	**$0.25**	**OW341**	5	**.45**
.002	.....	..	....	.....	..	....	**TP405**	1	**.20**	**TP456**	2	**.25**	**OW331**	5	**.45**
.003	.....	..	....	.....	..	....	**TP406**	1	**.20**	**TP457**	4	**.25**	**OW342**	6	**.45**
.004	.....	..	....	.....	..	....	**TP407**	1	**.20**	**TP458**	4	**.25**	**OW343**	6	**.45**
.005	.....	..	....	.....	..	....	**TP408**	2	**.20**	**TP459**	4	**.25**	**OW332**	6	**.45**
.006	.....	..	....	.....	..	....	**TP409**	2	**.20**	**TP460**	4	**.25**	**OW344**	8	**.45**
.007	.....	..	....	.....	..	....	**TP445**	3	**.20**	**TP461**	5	**.25**	**OW345**	8	**.45**
.008	.....	..	....	.....	..	....	**TP450**	3	**.20**	**TP462**	5	**.25**	**OW333**	8	**.45**
.01	.....	..	....	**TP421**	2	**$0.20**	**TP410**	3	**.20**	**TP434**	8	**.40**	**OW334**	10	**.45**
.015	.....	..	....	**TP400**	2	**.20**	**TP411**	4	**.20**	**TP463**	8	**.40**	**OW335**	11	**.45**
.02	.....	..	....	**TP423**	4	**.20**	**TP412**	5	**.20**	**TP435**	9	**.40**	**OW336**	11	**.45**
.025	.....	..	....	.....	..	....	**TP451**	5	**.25**	.....	..	....	.....	..	...
.03	.....	..	....	**TP424**	6	**.20**	**TP413**	7	**.25**	**TP464**	9	**.45**	**OW337**	15	**.45**
.04	.....	..	....	**TP425**	6	**.20**	**TP414**	8	**.25**	**TP465**	10	**.45**	**OW338**	19	**.50**
.05	**TP436**	7	**$0.20**	**TP426**	8	**.20**	**TP415**	8	**.25**	**TP437**	13	**.45**	**OW339**	21	**.55**
.06	.....	..	....	**TP427**	8	**.25**	**TP416**	8	**.30**	**TP466**	13	**.45**	.....	..	...
.075	.....	..	....	.....	..	....	**TP452**	9	**.30**	**TP467**	14	**.50**	.....	..	...
.1	**TP438**	9	**.25**	**TP428**	9	**.25**	**TP418**	12	**.30**	**TP439**	18	**.60**	.....	..	...
.15	.....	..	....	.....	..	....	**TP417**	14	**.40**	.....	..	....	.....	..	...
.2	.....	..	....	**TP429**	11	**.30**	**TP419**	15	**.45**	.....	..	....	.....	..	...
.25	**TP440**	17	**.30**	**TP430**	14	**.30**	**TP420**	16	**.45**	.....	..	....	.....	..	...
.3	.....	..	....	**TP444**	14	**.40**	**TP453**	16	**.55**	.....	..	....	.....	..	...
.4	.....	..	....	**TP442**	15	**.45**	**TP454**	21	**.60**	.....	..	....	.....	..	...
.5	**TP441**	18	**.45**	**TP431**	20	**.45**	**TP432**	22	**.60**	.....	..	....	.....	..	...
1.0	**TP443**	22	**.60**	**TP422**	23	**.60**	**TP433**	24	**1.00**	.....	..	....	.....	..	...

TYPES TP AND OW

● Mallory tubular paper condensers are color coded for quick identification of voltage rating. Colored band at the "outside foil" or ground end tells the story.

200 volts—red
400 volts—yellow
600 volts—blue
1000 volts—gold
1600 volts—copper
2000 volts—silver

Mallory Type TP condensers are wax-impregnated and wax sealed at the ends, the accepted standard construction for maximum protection from atmospheric conditions.

Mallory Type OW condensers are oil-impregnated and wax sealed, providing extra safety factor for voltage applications higher than usually recommended for the wax impregnated type.

DUAL TP CONDENSERS

● Mallory Dual TP units are packed 5 to a carton. Outside foil is common and connected to mounting strap.

METAL CASED OIL-IMPREGNATED CONDENSERS TYPE OT

● Mallory OT tubular condensers represent the finest quality obtainable. Impregnated in oil and housed in hermetically sealed leak-proof metal tubes, they are ideal for vibrator buffers and high voltage coupling applications.

All OT units are externally insulated with cardboard tubes and supplied with a mounting strap which may be removed if not required. Wire leads 2⅜ inches long. Packed in individual cartons.

SIZE CHART

S No.	Size	Box	**S No.**	Size	Box
1	1 x 5/16	10	**13**	1⅞ x ⅝	10
2	1 x ⅜	10	**14**	1⅞ x 11/16	10
3	1 1/16 x 7/16	10	**15**	1⅞ x ¾	10
4	1¼ x ⅜	10	**16**	1⅞ x 13/16	10
5	1¼ x 7/16	10	**17**	2 x ⅝	10
6	1¼ x 9/16	10	**18**	2 x ¾	10
7	1⅜ x 7/16	10	**19**	2 x ⅞	5
8	1½ x ½	10	**20**	2⅛ x 13/16	5
9	1½ x 9/16	10	**21**	2⅛ x ⅞	5
10	1½ x ⅝	10	**22**	2⅛ x 1	5
11	1⅝ x ¾	10	**23**	2½ x 1	5
12	1 11/16 x ⅝	10	**24**	2½ x 1¼	5

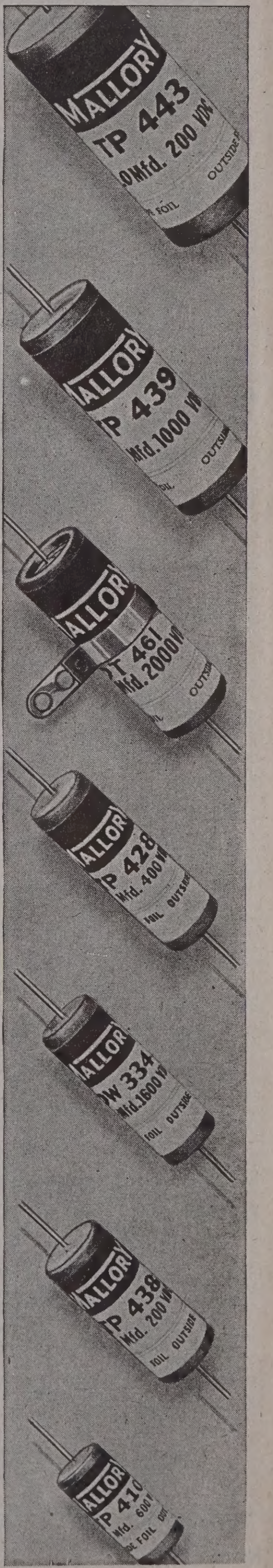
All diameters are plus or minus 1/32"

Listing gives rating, catalog number and list price. Column S refers to size and standard package quantity as outlined above. Wire leads approximately 2⅜ inches long.

Certain capacities in 200 and 400-volt ratings are not listed because they are too small in size for practical manufacture. If such ratings are required, always use the next higher voltage rating. There is no premium in price.

Capacity Mfd.	Volts DC	Size	**Catalog Number**	**List Price**
.01–.01	400	1½ x 7/16	**TP446**	**$0.45**
.05–.05	400	1⅞ x ⅝	**TP447**	**.50**
.1 –.1	400	2¼ x 11/16	**TP448**	**.55**
.25–.25	200	2½ x ¾	**TP449**	**.60**

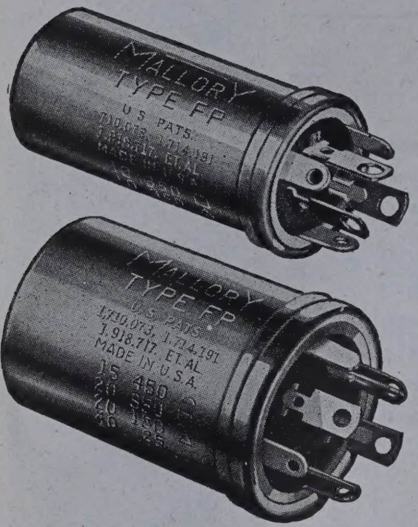
Capacity Mfd.	Volts DC	Size	**Catalog Number**	**List Price**
.002	1600	1¼ x ⅝	**OT370**	**$0.55**
.003	1600	1¼ x ⅝	**OT377**	**.55**
.005	1600	1¼ x ⅝	**OT371**	**.55**
.008	1600	1¼ x ⅝	**OT372**	**.60**
.01	1600	1¼ x ⅝	**OT373**	**.70**
.0125	1600	1¾ x ⅝	**OT374**	**.75**
.015	1600	1¾ x ⅝	**OT375**	**.75**
.02	1600	1¾ x ⅝	**OT376**	**.75**
.0025	2000	1⅝ x 9/16	**OT458**	**.75**
.005	2000	1 11/16 x 11/16	**OT459**	**.80**
.0075	2000	1⅞ x 11/16	**OT460**	**.85**
.01	2000	1⅞ x 11/16	**OT461**	**.90**
.0125	2000	2¼ x 11/16	**OT462**	**.90**
.015	2000	2¼ x 11/16	**OT463**	**.90**
.02	2000	2⅜ x 13/16	**OT464**	**1.00**
.03	2000	2⅜ x 13/16	**OT465**	**1.05**
.04	2000	2⅝ x 13/16	**OT466**	**1.05**
.05	2000	2⅝ x 13/16	**OT467**	**1.10**



P.R. MALLORY & CO. Inc.

MALLORY Condensers

DRY ELECTROLYTIC COMPACT VERTICAL TYPES FP AND WP



- These capacitors, long considered standard for metal encased units, are ideal for many types of service.

Light in weight, compact, and provided with an integral mounting feature, they save assembly space and time. Mounting brackets or accessories are not required where the chassis has been punched with the characteristic FP slotted design.

Reference to the chart below provides all characteristics needed for design requirements. While thousands of these units have given excellent service under extreme conditions of high altitudes and humidity, from an acceptance test standpoint, the hermetical seal provided may not prove as dependable as that used in the type BS. The test specification is the limiting factor rather than the service.

While other ratings are available, those listed were carefully selected to cover a maximum number of requirements with a minimum of units. Note the following examples:

1. A dual 10 mfd. unit is listed in several instances rather than a single 20 mfd. unit, because of its greater flexibility—the dual sections to be paralleled when 20 mfd. is desired. The same procedure holds for triple units.

2. The dual and triple 50-volt units are listed in anticipation of 24-volt tube circuits. Physical dimension details are shown on the opposite page.

Special mounting wrench A-93436 is available for twisting the mounting ears when assembling to chassis or mounting wafers.

Individually packed in display cartons.
One bakelite mounting washer included.

Capacity Mfd.	DC Wkg. Volts	Cat. No.	SIZE		Max. Surge	120 Cycle Ohms	DC Ma.	Cap. Tol. —10%	RMS RIPPLE (1st Section Only)		Max. Wkg. Temp.	List Price
			D	L					Volts	Ma.		
3000	10	**WP032**	1⅜″	x 3″	15	.4	3.0	+100%	.4	1200	85° C.	**$4.50**
1000	15	**WP039**	1 ″	x 3″	20	1.2	2.0	+100%	.9	600	85° C.	**3.15**
2000	15	**WP041**	1⅜″	x 3″	20	.6	2.5	+100%	.5	800	85° C.	**4.50**
40–40	25	**FPD202**	1 ″	x 2″	40	1.7	.6	+150%	3.0	90	85° C.	**1.20**
100	25	**FPS105**	¾″	x 2″	40	.7	.7	+150%	3.25	225	85° C.	**1.30**
500	25	**WP057**	1 ″	x 3″	40	1.4	1.5	+100%	1.0	500	85° C.	**3.00**
1000	25	**WP059**	1⅜″	x 3″	40	.7	1.5	+100%	1.0	750	85° C.	**4.20**
50–50	50	**WP203**	1″	x 2″	70	8.0	1.0	+200%	3.0	45	85° C.	**1.45**
30–30–30	50	**WP303**	1″	x 2″	70	12.0	.9	+200%	3.0	90	85° C.	**1.45**
150	50	**WP062**	1″	x 2″	70	2.0	1.8	+200%	2.3	250	85° C.	**1.95**
500	50	**WP065**	1⅜″	x 3″	70	1.4	2.5	+200%	1.5	700	85° C.	**4.50**
20–20	150	**FPD208**	1″	x 2″	225	15.0	.7	+100%	12.0	180	85° C.	**1.20**
50	150	**WP115**	1″	x 2″	200	6.0	2.3	+100%	6.0	230	85° C.	**1.15**
30–30	150	**WP211**	1 ″	x 2″	200	10.0	1.6	+100%	9.0	200	85° C.	**1.35**
20–20–20	150	**WP354**	1″	x 2″	200	15.0	1.2	+100%	12.0	180	85° C.	**1.45**
50–50	150	**FPD214**	1″	x 3″	225	6.0	1.0	+100%	6.0	230	85° C.	**1.60**
(50-30) (100)	(150) (25)	**FPT309**	1″	x 3″	225	6.0	1.0	+100%	6.0	230	85° C.	**2.05**
(50–50) (20)	(150) (25)	**FPT311**	1″	x 3″	225	6.0	1.0	+100%	6.0	230	85° C.	**1.75**
(30–30–30) (40)	(150) (25)	**WP408**	1⅜″	z 2″	200	10.0	1.6	+100%	9.0	200	85° C.	**2.00**
40–40–40	150	**WP357**	1″	x 3″	200	7.5	1.9	+100%	7.0	220	85° C.	**1.90**
20	250	**FPS120**	¾″	x 2″	350	12.0	.7	+50%	12.0	180	85° C.	**.85**
40–40	250	**FPD221**	1″	x 3″	350	6.0	.9	+50%	7.0	210	85° C.	**1.75**
10–10	300	**WP222**	1	x 2″	375	24.0	.8	+50%	20.0	150	85° C.	**1.20**
10–10–10	300	**WP368**	1″	x 2″	375	24.0	.8	+50%	20.0	150	85° C.	**1.45**
(10–10–10) (20)	(300) (25)	**WP411**	1⅜″	x 2″	375	24.0	.8	+50%	20.0	150	85° C.	**1.90**
20–20	300	**WP227**	1″	x 3″	375	12.0	1.4	+50%	12.9	180	85° C.	**1.50**
(20–20) (20)	(300) (25)	**WP323**	1″	x 3″	375	12.0	1.4	+50%	12.0	180	85° C.	**1.65**
50	350	**FPS137**	1″	x 3″	450	4.75	1.1	+50%	6.0	230	85° C.	**1.75**
125	350	**WP140**	1⅜″	x 3″	425	2.0	3.5	+50%	4.5	450	85° C.	**3.15**
10	40	**WP152**	1″	x 2″	475	24.0	.9	+50%	20.0	150	85° C.	**1.10**
20	400	**WP154**	1″	x 2″	475	12.0	1.6	+50%	12.0	180	85° C.	**1.35**
15–15	400	**WP254**	1″	x 3″	475	16.0	1.2	+50%	15.0	170	85° C.	**1.75**
(15–15) (40)	(400) (25)	**WP349**	1″	x 3″	475	16.0	1.2	+50%	15.0	170	85° C.	**2.00**
10–10–10	400	**WP399**	1″	x 3″	475	24.0	.9	+50%	20.0	150	85° C.	**1.90**
(20–20–20) (20)	(400) (25)	**WP455**	1⅜″	x 3″	475	12.0	1.6	+50%	12.0	180	85° C.	**2.85**
10	450	**FPS142**	¾″	x 2″	525	24.0	.8	+50%	20.0	150	85° C.	**.90**
15	450	**FP143**	1″	x 2″	525	16.0	1.2	+50%	15.0	170	65° C.	**1.20**
10–10	450	**FP231**	1″	x 2″	525	24.0	.9	+50%	20.0	150	65° C.	**1.45**
(10–10) (20)	(450) (25)	**FP332**	1″	x 2″	525	24.0	.9	+50%	20.0	150	65° C.	**1.60**
30	450	**FPS145**	1″	x 3″	525	9.0	1.1	+50%	9.0	200	65° C.	**1.65**
10–10–10	450	**FP389**	1″	x 3″	525	24.0	.9	+50%	20.0	150	65° C.	**1.90**
20–20	450	**FP234**	1″	x 3″	525	12.0	1.6	+50%	12.0	180	65° C.	**2.00**
10–10–10–10	450	**FPQ434**	1⅜″	x 2″	525	24.0	.8	+50%	20.0	150	65° C.	**1.30**
15–15–10	450	**FPT390**	1″	x 3″	525	16.0	.9	+50%	15.0	170	65° C.	**2.10**
(15–15–10) (20)	(450) (25)	**FPQ424**	1⅜″	x 2″	525	16.0	.9	+50%	15.0	170	65° C.	**2.30**
(20–20) (20)	(450) (25)	**FP339**	1″	x 3″	525	12.0	1.6	+50%	12.0	180	65° C.	**2.10**
(20–15) (40)	(450) (25)	**FPT338**	1″	x 3″	525	12.0	1.0	+50%	12.0	180	65° C.	**2.10**
80	450	**FPS149**	1⅜″	x 3″	525	3.0	1.6	+50%	5.0	300	65° C.	**2.95**
20–20–20–20	450	**FPQ444**	1⅜″	x 3″	525	12.0	1.0	+50%	12.0	180	65° C.	**3.30**
80–10	450	**FPD245**	1⅜″	x 3″	525	3.0	1.6	+50%	5.0	300	65° C.	**3.30**
20	25	(Where included with			40	35.0	.4	+200%	...	(Same as other		
40	25	the above ratings)			40	17.0	.6	+200%	...	nicluded sections)		

NOTE: All electrical characteristics on multiple units shown above are for first sections only.

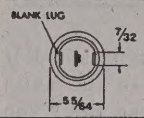
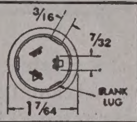
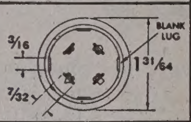
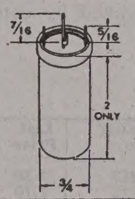
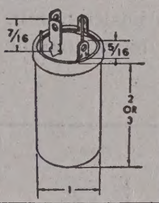
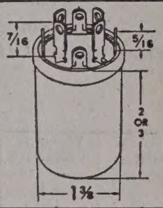
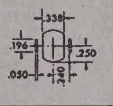
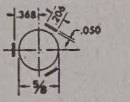
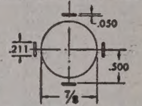
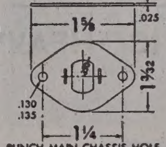
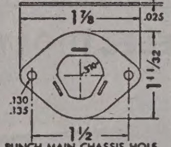
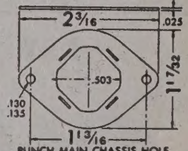
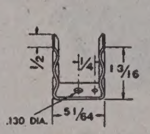
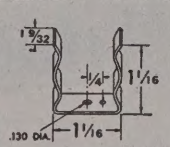
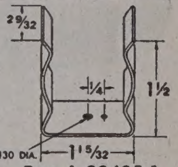
Condensers

P. R. MALLORY & CO. Inc.
MALLORY

DRY ELECTROLYTIC COMPACT VERTICAL TYPES FP AND WP

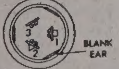
Hardware for Types FP and WP

Item	Description	Catalog Number	List Price	Item	Description	Catalog Number	List Price
Wrench	Special for FP Mounting	A-93436	$0.75	Mounting Clip	For ¾″ FP	A-93434-1	$0.10
Bakelite Washer	For ¾″ FP	A-93416-1	.05	Mounting Clip	For 1″ FP	A-93443-1	.10
Bakelite Washer	For 1″ FP	A-93410-1	.05	Mounting Clip	For 1⅜″ FP	A-93435-1	.10
Bakelite Washer	For 1⅜″ FP	A-93423-1	.05	Insulating Tube	For ¾″ x 2″ FP	A-93280-6	.05
Metal Washer	For ¾″ FP	A-93431-1	.05	Insulating Tube	For 1″ x 2″ FP	A-93280-3	.05
Metal Washer	For 1″ FP	A-93403-1	.05	Insulating Tube	For 1″ x 3″ FP	A-93280-2	.05
Metal Washer	For 1⅜″ FP	A-93424-1	.05	Insulating Tube	For 1⅜″ x 2″ FP	A-93280-5	.05
				Insulating Tube	For 1⅜″ x 3″ FP	A-93280-4	.05

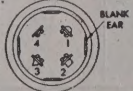
DESCRIPTION	¾″ CONTAINER	1″ CONTAINER	1⅜″ CONTAINER
Mounting End Detail and Important Dimensions See elsewhere on this page for terminal lug sequence.	 BLANK LUG 7/32 55/64	 3/16 7/32 BLANK LUG 17/64	 BLANK LUG 3/16 1 31/64 7/32
Perspective View of Container and Terminal Detail Mounting ring is negative terminal in all cases. All multiple units are common cathode construction. Black cardboard insulating tubes are available for all container sizes and may be secured assembled to container when required.	 7/16 5/16 2 ONLY ¾	 7/16 5/16 2 OR 3 1	 7/16 5/16 2 OR 3 1⅜
Chassis Layout for Direct Mounting Drawings show simplified punch and die design for direct mounting to chassis. If greater clearance is required design punch and die in accordance with metal plate layout below.	 .338 .196 .250 .050		 .050 .211 .500 ⅞
Metal Plate for Grounded Mounting These plates are cadmium plated, and serve as an alternative mounting to a directly punched chassis. Part A-93403-1 for 1″ containers fits standard 1½″ tube socket holes.	Part A-93431-1  1⅝ .025 1 3/32 .130 .135 1¼ PUNCH MAIN CHASSIS HOLE ¾″ to 1″ Diameter	Part A-93403-1  1⅞ .025 1 11/32 .130 .135 1½ PUNCH MAIN CHASSIS HOLE 1″ to 1¼″ Diameter	Part A-93424-1  2 3/16 .025 .503 1 17/32 .130 .135 1 13/16 PUNCH MAIN CHASSIS HOLE 1⅜″ Diameter
Bakelite Plate for Insulated Mounting (Similar to metal plates.)	Part A-93416-1 3/64″ thick. Punch Chassis ¾″ to 1″	Part A-93410-1 1/16″ thick. Punch Chassis 1 1/16″ to 1¼″	Part A-93423-1 1/16″ thick. Punch Chassis 1⅜″
Horizontal Mounting Clip These clips are similar to those used for cartridge fuses. They are cadmium plated and provided with a locating extrusion to prevent rotation.	 ½ ¼ 1 3/16 .130 DIA. 51/64 Part A-93434-1	 1 9/32 ¼ 1 1/16 .130 DIA. 1 1/16 Part A-93443-1	 2 9/32 ¼ 1½ .130 DIA. 1 15/32 Part A-93435-1

TERMINAL LUG SEQUENCE

The location of terminals has been completely standardized. Unwanted terminals are deleted leaving a blank, though sealed, hole in the cover.



3
1
2
BLANK EAR



BLANK EAR
4
1
3
2

All 1″ diameter containers have the following terminal lug sequence:

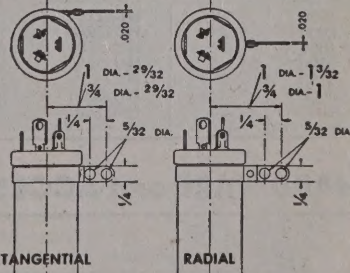
Singles	—	lug (No. 3) (—=Blank)
Duals	□	lug (No. 1) highest V.
	△	lug (No. 2) lowest V.
Triples	□	lug (No. 1) highest V.
	△	lug (No. 2) medium V.
	—	lug (No. 3) lowest V.

All 1⅜″ diameter containers have the following terminal lug sequence:

Singles	—	lug (No. 4) (—=Blank)
Duals	⌓	lug (No. 1) highest V.
	△	lug (No. 3) lowest V.
Triples	⌓	lug (No. 1) highest V.
	□	lug (No. 2) medium V.
	△	lug (No. 3) lowest V.
Quads.	⌓	lug (No. 1) highest V.
	□	lug (No. 2) next high V.
	△	lug (No. 3) next high V.
	—	lug (No. 4) lowest V.

For Identical Voltages the Above Sequence Will be Based on the Highest Capacity

CIRCULAR MOUNTING STRAPS



.020
1 DIA. - 29/32
¾ DIA. - 29/32
¼
5/32 DIA.
¼
TANGENTIAL
.020
1 DIA. - 1 3/32
¾ DIA. - 1
¼
5/32 DIA.
¼
RADIAL

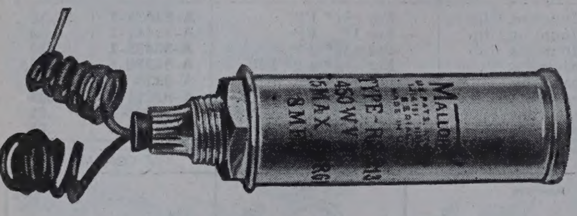
¾″ Dia. Part A-91738-1	¾″ Dia. Part A-91737-1
1″ Dia. Part A-91738-2	1″ Dia. Part A-91737-2

Tangential and Radial Mounting Straps

Available assembled to the container for ¾″ and 1″ diameter. The preferred location of the strap is against the bead as shown

P. R. MALLORY & CO. Inc. MALLORY Condensers

ROUND ALUMINUM CAN . TYPES RS, RM, HD and HS



Type RS represents the single section type and RM the multiple separate section type where the units are not internally connected. Always use the Type RM when a common positive unit is desired by connecting the positive leads together.

Capacity Mfd.	Working Volts DC	Size	Catalog No.	List Price
8	450	1 x 2⅞	**RS213**	**$1.30**
12	450	1 x 2⅞	**RS215**	**1.70**
16	450	1 x 3⅜	**RS216**	**1.90**
20	450	1⅜ x 3⅜	**RS219**	**2.10**
30	450	1⅜ x 3⅝	**RS223**	**2.40**
40	450	1⅜ x 4⅛	**RS224**	**2.75**
8	500	1⅜ x 4⅜	**HD683**	**2.10**
4	600	1⅜ x 3⅝	**HS691**	**2.25**
8	600	1⅜ x 3⅝	**HS693**	**3.15**
8–8	450	1⅜ x 4⅜	**RM262**	**1.95**
8–8–8	450	1⅜ x 4⅜	**RM265**	**2.80**

CARDBOARD CARTON TYPES CS, CM

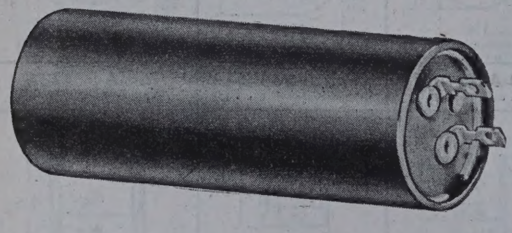
Capacity Mfd.	Wkg. V. DC	Max. Surge V.	Size	Catalog No.	List Price
			CS—SINGLE SECTION TYPE		
2	450	525	½ x ¾ x 2$\frac{7}{16}$	**CS130**	**$0.80**
4	450	525	⅝ x ⅞ x 2$\frac{7}{16}$	**CS131**	**.90**
8	450	525	⅝ x 1 x 2$\frac{7}{16}$	**CS133**	**1.15**
16	450	525	1 x 1¼ x 2$\frac{7}{16}$	**CS136**	**1.75**
			CM—SEPARATE SECTION TYPE		
16–16	250	300	1⅜ x 1 x 2⅝	**CM164**	**$2.20**
4–4	450	525	¾ x 1⅛ x 2⅝	**CM170**	**1.45**
8–8	450	525	1⅜ x 1 x 2⅝	**CM172**	**1.80**
8–8–8	450	525	1½ x 1¼ x 3	**CM175**	**2.65**

HEAVY DUTY TYPES HD AND HS

Type HD and HS condensers are ideal for all heavy-duty filter applications. Designed primarily for public address and theater applications, they may be used wherever extra safety factor is desirable.

Capacity Mfd.	Wkg. Volts DC	Max. Surge Volts	Size	Catalog Number	List Price
8	500	550	$\frac{11}{16}$ x 1⅛ x 2$\frac{7}{16}$	**HD682**	**$1.80**
4	600	700	⅞ x 1¼ x 3	**HS690**	**2.10**
8	600	700	1¼ x 1½ x 3	**HS692**	**2.95**

DRY ELECTROLYTIC HEAVY-DUTY TYPES HC AND EPB



Type HC capacitors are high-capacity, low-voltage units supplied in round hermetically-sealed Bakelite containers. All units listed are stocked.

The Bakelite containers provide excellent insulation from bracket or ground.

Type EPB capacitors are supplied in Bakelite containers and are especially designed for high voltage applications where low temperatures will be encountered. These units are carried in stock for small quantity shipments.

Capacity Mfd.	DC Working Volts	Catalog Number	SIZE D x H	Max. Surge	120 Cycle Ohms	DC Ma.	Cap. Tol. — 10%	RMS RIPPLE (1st Section Only) Volts	RMS RIPPLE (1st Section Only) Ma.	Max. Working Temp.	List Price
1000	12	**HC1210**	1$\frac{7}{16}$ x 3⅜	18	.8	2.0	+100%	.75	500	85° C.	**$3.00**
2000	12	**HC1220**	1$\frac{7}{16}$ x 3⅜	18	.5	2.5	+100%	.65	750	85° C.	**3.90**
4000	12	**HC1240**	2$\frac{1}{16}$ x 3⅜	18	.3	3.5	+100%	.8	1800	85° C.	**6.60**
500	25	**HC2505**	1$\frac{7}{16}$ x 3⅜	40	1.0	2.0	+100%	1.0	750	85° C.	**2.70**
1000	25	**HC2510**	1$\frac{7}{16}$ x 3⅜	40	.6	2.5	+100%	1.0	1000	85° C.	**4.20**
2000	25	**HC2520**	2$\frac{1}{16}$ x 3⅜	40	.4	3.0	+100%	1.0	1500	85° C.	**7.20**
4000	25	**HC2540**	2$\frac{1}{16}$ x 4⅜	40	.2	4.0	+100%	1.0	2500	85° C.	**10.00**

HARDWARE and ACCESSORIES for all Types of Dry Electrolytic Condensers

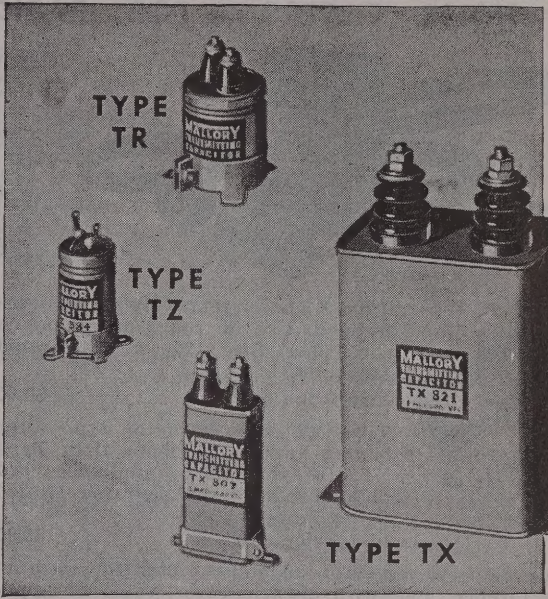
Description	Catalog Number	List Price
Mallory Terminal Connector	**A-016**	**$0.05**
Washer for Clamp Mounting 1″ Cans	**A-017**	**.05**
Washer for ⅞ Hole Mounting 1″ Cans	**015-1**	**.05**
Washer for Spade Bolt Mounting 1″ and 1⅜″ Cans	**015-2**	**.05**
Ring Clamp for 1″ Round Unit	**105-1**	**.10**
Ring Clamp for 1⅜″ Round Unit	**106-1**	**$0.10**
Ring Clamp for 1½″ Round Unit	**107-1**	**.15**
Ring Clamp for 2½″ Round Unit	**108-1**	**.20**
Ring Clamp for 3″ Round Unit	**109-1**	**.20**
Special Mounting Bracket	**104-1**	**.15**

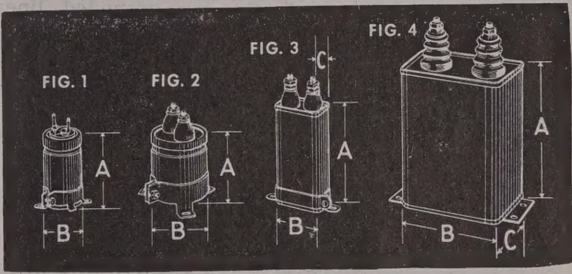
Condensers

P. R. MALLORY & CO. Inc.
MALLORY

TRANSMITTING AND TELEVISION TYPES TZ AND TX

Capacity Mfd.	Working V. DC	Size A B C	Catalog Number	List Price
SMALL ROUND CAN—TYPE TZ				
2	600	3 x 1⅜	TZ382	$3.30
4	600	4¾ x 1⅜	TZ383	4.50
1	1000	2¾ x 1⅜	TZ384	3.00
2	1000	4¼ x 1⅜	TZ385	3.90
4	1000	3⅞ x 2	TZ389	5.70
.5	1500	3⅛ x 1⅜	TZ386	3.60
1.0	1500	5¼ x 1⅜	TZ387	3.90
2	1500	4¾ x 2	TZ388	5.70
RECTANGULAR CAN—TYPE TX				
1	600	2⅛ x 1¾ x 1	TX801	$4.20
2	600	2¾ x 1¾ x 1	TX802	5.10
4	600	4¼ x 1¾ x 1	TX803	6.60
.5	1000	2 x 1¾ x 1	TX822	3.60
1	1000	2⅝ x 1¾ x 1	TX804	4.50
2	1000	3⅞ x 1¾ x 1	TX805	6.00
4	1000	4¼ x 2½ x 1 3/16	TX806	7.50
1	2000	4 x 1¾ x 1	TX810	6.60
2	2000	4¼ x 2½ x 1¾	TX811	7.80
4	2000	4 x 3¾ x 1¾	TX823	10.80
1	2500	4 x 2½ x 1 3/16	TX812	9.60
2	2500	4¾ x 3¾ x 1¼	TX813	15.60
1	3000	4¾ x 3¾ x 1¾	TX814	14.40
2	3000	4⅝ x 3¾ x 3 3/16	TX815	18.00
2	4000	4¾ x 5⅛ x 3½	TX827	33.50
4	4000	8⅛ x 5⅛ x 3½	TX828	48.00
1	5000	4¾ x 5⅛ x 3½	TX818	30.00
2	5000	8¼ x 5⅛ x 3½	TX819	38.40
.5	6000	4⅜ x 5⅛ x 3½	TX820	48.00
1.0	6000	7 x 5⅛ x 3½	TX821	60.00

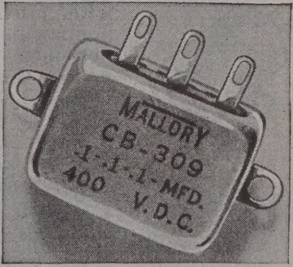

TYPE TR
MALLORY TRANSMITTING CAPACITOR
TYPE TZ
MALLORY TRANSMITTING CAPACITOR 384
MALLORY TRANSMITTING CAPACITOR TX 807
MALLORY TRANSMITTING CAPACITOR TX 821
TYPE TX

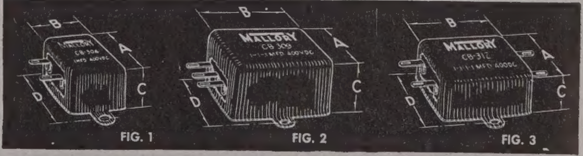


CASED BYPASS TYPES CB

Cap. Mfd.	Wkg. V. DC	Size A B C D	Fig.	Catalog Number	List Price
.1	400	1¾ x ⅞ x ¾ x 2⅛	1	CB301	$0.80
.25	400	1¾ x ⅞ x ¾ x 2⅛	1	CB302	.90
.5	400	2 x 1¾ x ⅞ x 2⅜	1	CB303	1.15
1.0	400	2 x 2 x 1 x 2⅜	1	CB304	1.50
2.0	400	2 x 2 x 1¼ x 2⅜	1	CB305	1.90
2 x .1	400	1¾ x 1 x ⅞ x 2⅛	2	CB306	1.00
2 x .25	400	2 x 1¾ x ⅞ x 2⅜	2	CB307	1.20
2 x .5	400	2 x 2 x 1 x 2⅜	2	CB308	1.50
3 x .1	400	1⅜ x 1¼ x ⅞ x 2⅛	2	CB309	1.30
3 x .25	400	2 x 2 x 1 x 2⅜	2	CB310	1.60
3 x .5	400	2 x 2 x 1⅛ x 2⅜	2	CB311	2.25
4 x .1	400	2 x 1¾ x ⅞ x 2⅜	3	CB312	1.70
.1	600	1¾ x ⅞ x ¾ x 2⅛	1	CB313	.90
.25	600	1¾ x 1 x ⅞ x 2⅛	1	CB314	1.10
.5	600	2 x 1¾ x ⅞ x 2⅜	1	CB315	1.45
2 x .1	600	2 x 1¾ x ⅞ x 2⅜	2	CB316	1.10
3 x .1	600	2 x 1¾ x ⅞ x 2⅜	2	CB317	1.90

● Cased bypass single units (Fig. 1) have both terminals insulated from case. Dual units (Fig. 2) have center lug common and container insulated from all sections. Triple units (Fig. 2) have common grounded to case. Quad unit (Fig. 3) has common grounded to case.





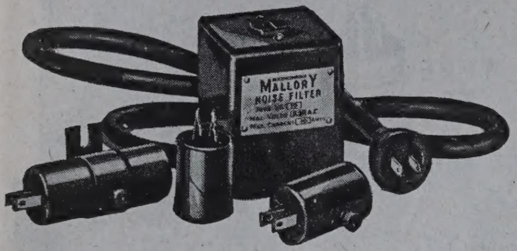
UNCASED TYPES UB

Capacity Mfd.	Wkg. V. DC	Size	Catalog Number	List Price
1	200	2⅛ x 1⅜ x 7/16	UB351	$0.75
2	200	2⅛ x 1 11/16 x 11/16	UB352	1.15
4	200	2⅛ x 2 1/16 x 1⅛	UB353	2.05
1	400	2⅛ x 1 9/16 x 9/16	UB354	.90
2	400	2⅛ x 1 13/16 x ⅞	UB355	1.40
4	400	4⅜ x 1 9/16 x 13/16	UB356	2.40
.5	600	2⅛ x 1 7/16 x 7/16	UB357	.75
1.0	600	2⅛ x 1 11/16 x 13/16	UB358	1.10
2.0	600	2⅛ x 2¼ x 1 1/16	UB359	1.65
1	800	4⅜ x 1½ x ⅝	UB360	1.50
2	800	4⅜ x 2 1/16 x ⅞	UB361	2.40
1	1000	4⅜ x 1⅞ x ¾	UB362	1.80
2	1000	4⅜ x 2⅛ x 1 3/16	UB363	3.00

● Uncased condensers are convenient for replacing sections in paper condensers, filter blocks and for other applications requiring low-priced uncased units of this type. For long life, however, these units should be potted and not left unprotected from moisture.

P.R. MALLORY & CO. Inc. MALLORY Condensers

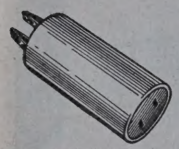
NOISE FILTERS — FOR RADIO INTERFERENCE SUPPRESSION



● Mallory Noise Filters are available in a number of specialized types, each type having its own field of application. For most effective noise elimination and for maximum economy, thought should be given to the selecton of the correct Mallory Noise Filter type. The general application of Mallory filters is given in Form NF-100, available from your distributor.

To assist you in securing the most effective and economical installation, the Engineering Department of P. R. Mallory & Co., Inc., will gladly analyze the essential facts covering your installation, and will recommend suitable equipment.

Some devices are particularly difficult to filter and it should also be understood that no type of noise filter is effective where the interference is entering through the antenna system if the source cannot be reached, nor the antenna location changed.



TYPES X1, X3, Z2, Z4

Type X1 is for relatively slight interference. Use at radio or appliance cord plug. Size 1⅜" x 1¾", rated 110 volts, 5 amps.

List Price each **$0.60**

Type X3 is a capacitor type filter having greater efficiency than Type X1. Use at radio or appliance cord plug. Size 1⅜" x 2¼", rated 110-220 volts, 5 amps.

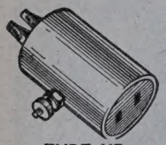
List Price each **$0.90**

Type Z2 is a capacitor-inductance filter for medium interference. Use with electric razor, radio or appliance cord plugs. Most effective on grounded line systems where reversal of plug will affect operation. Size 1⅜" x 2¾", rated 110-220 volts, 3 amps.

List Price each **$1.40**

Type Z4 is a dual inductance-capacity filter for severe interference on appliances where a return lead from the filter is inconvenient. Ideal for electric razor, vibrators and household appliances. Use at radio or appliance cord plug. Size 1⅜" x 3", rated 110-220 volts, 3 amps.

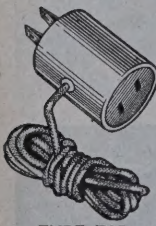
List Price each **$1.65**



TYPE X5

Type X5 is a triple capacity filter with provision for return lead to appliance. Special safety feature prevents possibility of shock and makes this unit ideal for use with vacuum cleaners, food mixers, etc. Size 1⅜" x 2⅛", rated 110-220 volts, 5 amps., and equipped with binding post for connection to appliance or motor frame.

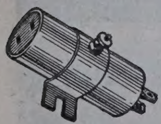
List Price each **$1.50**



TYPE ZA1

Type ZA1 is an antenna substitute using house wiring as antenna. Capacity and inductance combination, size 1⅜" x 1¾".

List Price each **$1.20**



TYPES Z6 and Z8

Type Z6 is a dual inductance-capacity filter with provision for return lead to ground. Recommended for suppressing severe interference. Use at radio cord plug or motor and appliance plugs. Size 1⅛" x 3⅜". Rated 110-220 volts, 3 amps.

List Price each **$2.10**

Type Z8 is same as Z6 but with provision for return wire connection to motor or appliance frame rather than ground. An efficient filter equivalent to box type within 3 amp. rating.

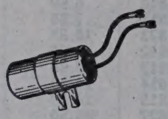
List Price each **$2.10**

Type Z8A is same as Z8 except provided with lead connections. Designed for mounting directly on appliance. Ideal for use with fluorescent lamps.

List Price each **$2.40**

Type W7 is a dual capacity filter for use on motor brushes or rings and designed for mounting inside or on motor housing. For moderate interference. Size ⅞" x 1$\frac{15}{16}$", rated 110-220 volts.

List Price each **$0.90**



TYPES W7, W7A, W9, W11, W7SP, W9SP, W11SP

Type W7A is similar to W7, except smaller physical size. For 110-volt service only. Size $\frac{11}{16}$" x 1$\frac{11}{16}$".

List Price each **$0.75**

Type W7SP is similar to W7 except provided with shock-proof feature to permit use with ungrounded appliances such as drink mixers, electric drills, etc. Size ⅞" x 1$\frac{15}{16}$".

List Price each **$0.90**

Type W9 is similar to Type W7 but for medium interference. Size 1" x 3". **List Price each** **$1.20**

Type W9SP is similar to Type W7SP (except for medium interference, Size 1" x 2⅝".

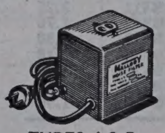
List Price each **$1.20**

Type W11 is similar to Type W7, but for severe interference. Size 1⅜" x 3". **List Price each** **$1.50**

Type W11SP is similar to Type W7SP, except for severe interference. Size 1⅛" x 3¼".

List Price each **$1.50**

Type LC5 is an inductance-capacity filter for extremely severe interference. Has provision for return lead to frame of motor or appliance. Rated 110-220 volts, 5 amps., supplied in rectangular housing with mounting flanges. Size 2⅞" x 3" x 3½" high. **List Price each** **$6.00**



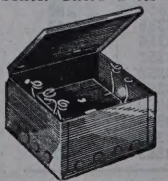
TYPES LC-5 and LC-10

Type LC10 is identical in size to Type LC5, but is rated at 110-220 volts, 10 amps. **List Price each** .. **$9.60**

HEAVY DUTY TYPES LB

● Mallory Type LB Noise Filters are for use with equipment that is permanently connected to the power line or which draws a minimum of 10 amperes or more.

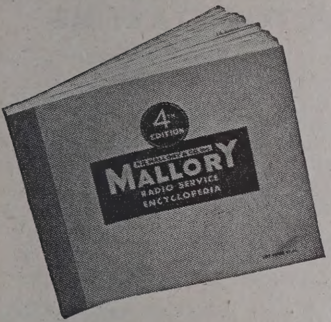
Type LB Filters are furnished as complete units including capacity and inductance and supplied in standard type metal cut-out boxes. These units are available in various current ratings as listed below.



Type	Rating	Size	List Price Complete
LB-10	220V-10 Amps.	6 x 6 x 4	**$14.40**
LB-20	220V-20 Amps.	10 x 10 x 6	**33.60**
LB-40	220V-40 Amps.	12 x 10 x 6	**42.00**

Condensers

P. R. MALLORY & CO. Inc.
MALLORY



4th Edition

MALLORY

RADIO SERVICE ENCYCLOPEDIA

Complete information on servicing all types of controls, condensers and vibrators. Circuit references, original part numbers and recommended replacements. A book that will pull you out of many a tight servicing spot. Available from your Mallory distributor.

PRICE . . . 95 CENTS

MISCELLANEOUS AUTO TYPES AG, AM, FM, DL, RF

Capacity	Wkg. V. DC	Size	Fig.	Cat. No.	List Price
.05	100	7/16 x 1 3/16	5	**AG443**	**$0.60**
.25	200	5/8 x 1 13/16	5	**AG444**	**.60**
.5-.5	100	7/8 x 2	5	**AG450**	**.90**
.5	200	3/4 x 2	5	**AG451**	**.60**
1.0	200	1 x 2 3/16	5	**AG452**	**.85**
.5*	200	3/4 x 1 3/4	11	**AG453**	**.90**
.5	200	5/8 x 2	6	**AM454**	**.55**
4.0	50	2 x 2 x 1	..	**CA275X**	**2.00**
.5	100	11/16 x 1 7/8	12	**FM441**	**.60**
.5	160	11/16 x 2	7	**FM442**	**.60**
.5	200	1 x 2 3/8	9	**DL445**	**1.05**
.5	100	13/16 x 1 5/16	13	**RF480**	**.50**
.5	50	3/4 x 1 3/8	8	**RF481**	**.75**
1.0	50	15/16 x 1 5/8	8	**RF482**	**.90**

- This group is designed for various car radio applications.

Types AG are for noise suppression at the generator, oil and gas gages, etc.

Type AM is for suppression at the ammeter and other instruments.

Types FM are especially designed for Ford generators.

Type DL is a dome light interference suppressor and includes an RF choke.

Types RF are for general vibrator hash and noise suppression and have a very low RF impedance.

RF CHOKES

Turns	Wire	Size	Fig.	Cat. No.	List Price
90	16	1 x 1 1/2	10	**RF581**	**$0.80**
55	16	1 x 1 3/16	10	**RF582**	**.60**
55	12	1 5/16 x 1 5/8	10	**RF583**	**.90**

- Mallory chokes, Type RF, are designed for use wherever RF chokes are needed for hash or other radio frequency suppression. Complete particulars and detailed instructions for their use will be found in the Mallory-Yaxley Radio Service Encyclopedia.

*Has shielded lead.

MYE
TECHNICAL MANUAL

This simply written, practical book bridges the gap between radio theory and practice. Designed for the radio serviceman, engineer, amateur or experimenter who wants the latest technical information . . . presented so that he can easily apply it to everyday problems.

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8. Television—suggestions for the postwar boom
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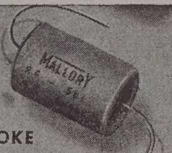


FIG. 10
RF CHOKE

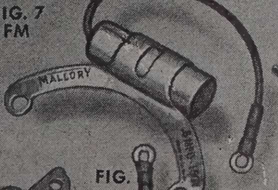


FIG. 7
FM

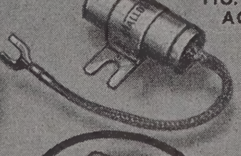


FIG. 11
AG

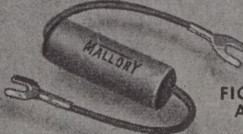


FIG. 6
AM

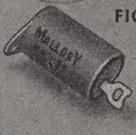


FIG. 13
RF

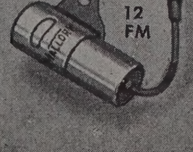


FIG. 12
FM

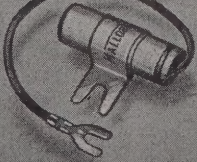


FIG. 5
AG

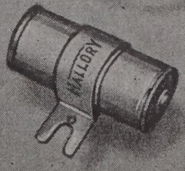


FIG. 9
DL

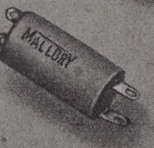
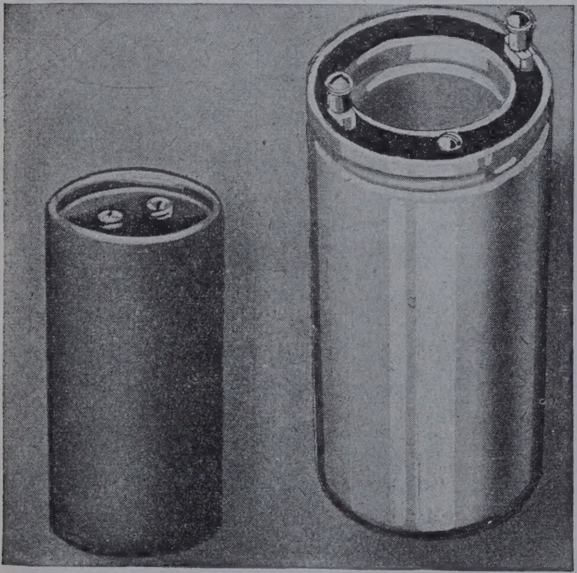


FIG. 8
RF

P. R. MALLORY & CO. Inc. MALLORY Condensers

ROUND CAN TYPES MSU

Cap. Rating Mfd.		AC Volts	SIZE		Catalog Number	List Price
New	Old		Dia.	Height		
20-24	20	110	1⅜	2¾	**MSU120**	**$1.35**
26-30	25	110	1⅜	2¾	**MSU121**	**1.35**
32-36	30	110	1⅜	2¾	**MSU122**	**1.45**
38-42	35	110	1⅜	2¾	**MSU123**	**1.45**
43-48	40	110	1⅜	2¾	**MSU124**	**1.45**
53-60	50	110	1⅜	2¾	**MSU125**	**1.50**
64-72	60	110	1⅜	2¾	**MSU126**	**1.50**
70-78	65	110	1⅜	2¾	**MSU127**	**1.60**
75-84	70	110	1⅜	2¾	**MSU128**	**1.60**
86-96	80	110	1⅜	2¾	**MSU129**	**1.65**
97-107	90	110	1⅜	3¼	**MSU130**	**1.70**
108-120	100	110	1⅜	3¼	**MSU131**	**1.70**
124-138	115	110	1⅜	3¼	**MSU132**	**1.80**
145-162	135	110	1⅜	3¼	**MSU133**	**2.20**
161-180	150	110	1⅜	4¼	**MSU134**	**2.40**
161-180	150	110	1¾	3¼	**MSU135**	**2.40**
194-216	180	110	1⅜	4¼	**MSU136**	**2.90**
194-216	180	110	1¾	3¼	**MSU137**	**2.90**
200-220	200	110	1⅜	4¼	**MSU138**	**3.15**
216-240	200	110	1¾	4¼	**MSU139**	**3.25**
216-240	200	110	2	3⅛	**MSU140**	**3.25**
243-270	225	110	1¾	4¼	**MSU141**	**3.60**
243-270	225	110	2	3⅛	**MSU142**	**3.60**
270-300	250	110	2	3⅛	**MSU143**	**4.20**
324-360	300	110	2	4⅛	**MSU144**	**4.80**
378-420	350	110	2	4⅛	**MSU145**	**5.40**
20-24	20	220	1⅜	3¼	**MSU175**	**2.30**
26-30	25	220	1⅜	3¼	**MSU176**	**2.65**
32-36	30	220	2	3⅛	**MSU177**	**3.00**
38-42	35	220	2	3⅛	**MSU178**	**3.40**
43-48	40	220	2	3⅛	**MSU179**	**3.60**
53-60	50	220	2	3⅛	**MSU180**	**4.10**



Type MSU

Type MST

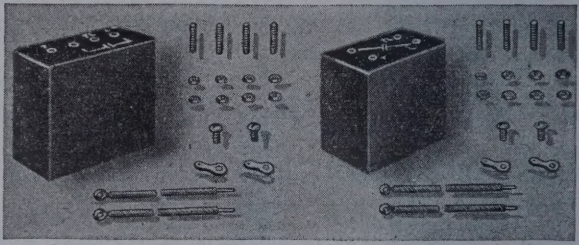
TOROIDAL TYPES MST

Cap. Rating Mfd.		AC Volts	SIZE			Catalog Number	List Price
New	Old		A	B	C		
86-96	80	110	2½	4½	1 5/16	**MST970**	**$3.60**
108-120	100	110	2½	4½	1 5/16	**MST971**	**4.20**
124-138	115	110	2½	4½	1 5/16	**MST972**	**4.50**
161-180	175	110	3¼	5⅜	2 1/16	**MST973**	**6.00**
230-256	225	110	3¼	5⅜	2 1/16	**MST975**	**7.80**
243-270	225	110	3¼	6⅜	2 1/16	**MST976**	**8.40**
324-360	300	110	3¼	5⅜	2 1/16	**MST977**	**10.80**
324-360	300	110	3¼	6⅜	2 1/16	**MST978**	**11.40**
400-450	375	110	3¼	6⅜	2 1/16	**MST979**	**12.00**
460-510	425	110	3¼	6⅜	2 1/16	**MST980**	**13.20**
540-600	500	110	3¼	6⅜	2 1/16	**MST981**	**15.60**

FOR A. C. MOTOR STARTING

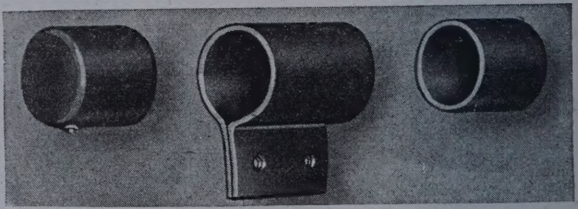
• Mallory Motor Starting Capacitors incorporate the latest design improvements to provide long life and maximum efficiency in all motor starting applications. New universal mounting features reduce inventory—permit these modern compact capacitors to be used for replacing old-style large units. Complete instructions, replacement recommendations, test data and other valuable information given in Form M801 available without charge from your Mallory Distributor, or mailed on request.

RECTANGULAR TYPES MSF and MSG



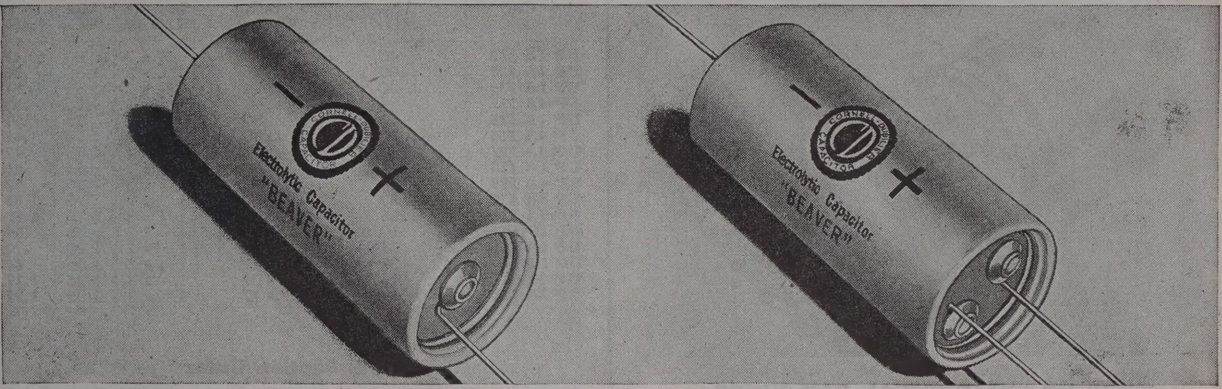
Cap. Rating Mfd.		AC Volts	SIZE			Cat. No.	List Price
New	Old		A	B	C		
32- 36	30	110	3½	3½	2	**MSG220**	**$2.40**
53- 60	50	110	3½	3½	2	**MSG221**	**2.40**
64- 72	60	110	3½	3½	2	**MSG222**	**2.55**
73- 85	80	110	3½	3½	2	**MSG223**	**2.55**
86- 96	80	110	4½	4½	1¼	**MSF224**	**2.55**
97-107	90	110	3½	3½	2	**MSG225**	**2.65**
108-120	100	110	3½	3½	2	**MSG226**	**2.65**
108-120	100	110	4½	4½	1¼	**MSF227**	**2.65**
124-138	115	110	3½	3½	2	**MSG228**	**3.00**
124-138	115	110	4½	4½	1¼	**MSF229**	**3.00**
145-162	135	110	3½	3½	2	**MSG230**	**3.40**
161-180	150	110	3½	3½	2	**MSG231**	**3.60**
161-180	150	110	4¼	4¼	1½	**MSF232**	**3.60**
189-210	175	110	4¼	4¼	1½	**MSF233**	**4.10**
270-300	250	110	3½	3½	2	**MSG234**	**5.40**
26-30	25	220	3½	3½	2	**MSG250**	**3.60**
32-36	30	220	3½	3½	2	**MSG251**	**4.20**
32-36	30	220	4½	4½	1¼	**MSF252**	**4.20**
43-48	40	220	3½	3½	2	**MSG253**	**5.40**

STANDARD END CAPS and BRACKETS



Cat. No.	Description	Dia.	List Price
115-1	Top Cap	1⅜"	**$0.15**
116-1	Top Cap	2"	**.15**
118-1	Bottom Cap	1⅜"	**.15**
119-1	Bottom Cap	2"	**.15**
121-1	Bracket for 3¼" Can	1⅜"	**.25**
122-1	Bracket for 4¼" Can	1⅜"	**.25**
123-1	Bracket for 3⅛" Can	2"	**.25**
124-1	Bracket for 4⅛" Can	2"	**.25**

TUBULAR CAN-TYPE DRY ELECTROLYTIC CAPACITORS



TYPES BR AND BRD "BLUE BEAVER"* CAPACITORS

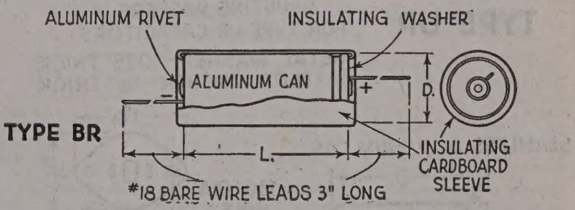
Types BR and BRD "Blue Beavers" are the most popular electrolytic capacitors employed for all applications where units are required for convenient mounting in small spaces beneath a chassis or connected directly in the wiring assembly. They are small in physical size and self-supporting by means of strong, bare tinned-copper wire leads, while the larger sizes may be mounted with a metal strap or any other arrangement which may be found suitable.

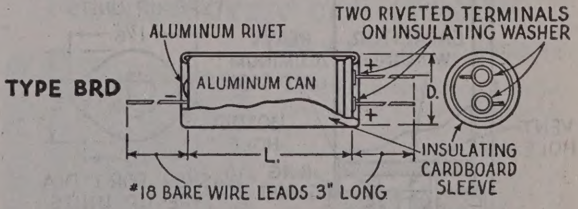
Type BR capacitors employ seamless, drawn aluminum can construction encased in a tightly fitted insulated cardboard tube sleeve. A bare tinned-copper wire lead is riveted to the bottom of the can for negative connection while the positive terminal lead is riveted in the center of an insulated disc cover at the opposite end. Polarity of all units is clearly indicated on the cardboard tube casing.

Cat. No.	Cap. Mfd.	Size—Inches Diam. x Length	List Price	Net Price
		25 V. D.C.		
BR 102A	10	5/8 x 1 1/16	$0.50	**$0.30**
BR 202A	20	5/8 x 1 1/16	.55	**.33**
BR 252A	25	5/8 x 1 1/16	.60	**.36**
BR 502	50	5/8 x 1 7/16	.75	**.45**
		50 V. D.C.		
BR 550	5	5/8 x 1 1/16	.50	**.30**
BR 105	10	5/8 x 1 1/16	.55	**.33**
BR 205	20	5/8 x 1 7/16	.60	**.36**
BR 255	25	5/8 x 1 7/16	.70	**.42**
BR 505	50	5/8 x 1 11/16	.85	**.51**
		150 V. D.C.		
BR 415	4	5/8 x 1 1/16	.50	**.30**
BR 815	8	5/8 x 1 1/16	.55	**.33**
BR 1215	12	5/8 x 1 7/16	.60	**.36**
BR 1615	16	5/8 x 1 7/16	.70	**.42**
BR 2015	20	5/8 x 1 11/16	.75	**.45**
BR 3015	30	3/4 x 2	.80	**.48**
BR 4015	40	3/4 x 2	.85	**.51**
		250 V. D.C.		
BR 425	4	5/8 x 1 1/16	.55	**.33**
BR 825	8	5/8 x 1 7/16	.60	**.36**
BR 1225	12	5/8 x 2	.80	**.48**
BR 1625	16	3/4 x 1 11/16	.90	**.54**
BR 2025	20	3/4 x 1 11/16	1.00	**.60**
BR 4025	40	7/8 x 2 1/2	1.15	**.69**
		350 V. D.C.		
BR 435	4	5/8 x 1 7/16	.60	**.36**
BR 835	8	3/4 x 1 11/16	.70	**.42**
BR 1235	12	3/4 x 2	.85	**.51**
BR 1635	16	7/8 x 2	1.00	**.60**
		450 V. D.C.		
BR 145	1	5/8 x 1 1/16	.55	**.33**
BR 245	2	5/8 x 1 1/16	.60	**.36**
BR 445	4	5/8 x 1 7/16	.70	**.42**
BR 845	8	3/4 x 2	.75	**.45**
BR 1045	10	7/8 x 2	.85	**.51**
BR 1245	12	7/8 x 2	.90	**.54**
BR 1645	16	7/8 x 2 1/2	1.10	**.66**
BR 2045	20	1 x 2 1/2	1.20	**.72**
BR 3045	30	1 x 3	1.45	**.87**
		500 V. D.C.		
BR 850	8	7/8 x 1 11/16	1.05	**.63**
BR 1650	16	1 x 2 1/2	1.60	**.96**

Type BRD, dual section units, in the small diameter sizes are furnished in an aluminum tube which is closed at both ends with an insulated disc, each disc supporting a positive wire lead. Common negative connection to the unit is made to a metal mounting strap around the middle of the tube. No cardboard tube sleeve is of course supplied on these units. All other BRD capacitors are furnished with positive leads riveted on an insulated disc cover at one end of a drawn aluminum can and provided with a cardboard tube sleeve.

All BR and BRD units are hermetically sealed and are suited for operation under conditions of relatively high humidity. The range of capacities and voltage ratings available cover practically all uses as replacements in radio service work. Two and more of these small size capacitors may be strapped together in a unit in order to obtain a wide variety of capacity combinations employed in various circuits of standard receivers.

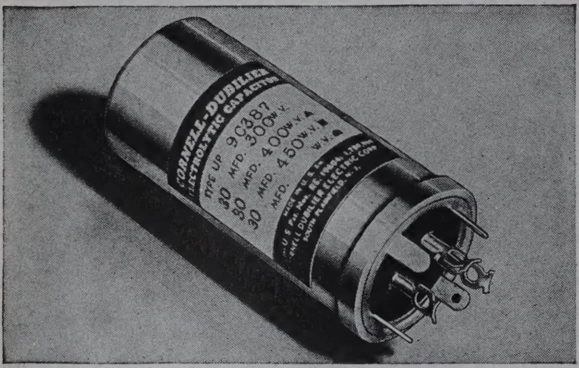



ALUMINUM RIVET
TWO RIVETED TERMINALS ON INSULATING WASHER
ALUMINUM CAN
+
+
D.
TYPE BRD
L.
INSULATING CARDBOARD SLEEVE
#18 BARE WIRE LEADS 3" LONG

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
BRD 202A	20–20	25	3/4 x 1 1/8	$1.50	**$0.90**
BRD 2215	20–20	150	7/8 x 1 11/16	1 60	**.96**
BRD 3315	30–30	150	1 x 2	1.75	**1.05**
BRD 4415	40–40	150	1 x 2 1/2	2.00	**1.20**
BRD 2225	20–20	250	1 x 2	2.20	**1.32**
BRD 2235	20–20	350	1 x 3	2.40	**1.44**
BRD 1145	10–10	450	1 x 2 1/2	2.20	**1.32**
BRD 5245	15–15	450	1 x 3	2.40	**1.44**

*** Reg. U. S. Pat. Off.**

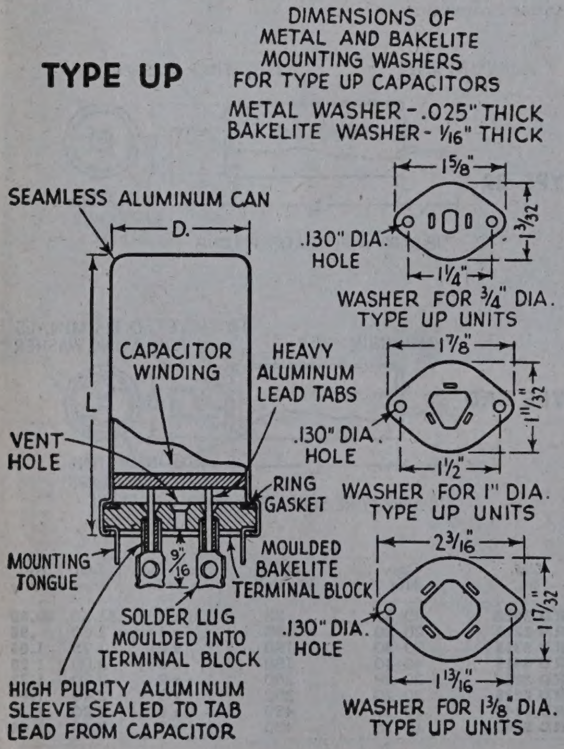
PRONG-BASE DRY ELECTROLYTIC CAPACITORS


CORNELL-DUBILIER
ELECTROLYTIC CAPACITOR
TYPE UP 9C387
30 MFD. 300 W.V.
30 MFD. 400 W.V.
30 MFD. 450 W.V.

TYPE UP CYLINDRICAL CAN UNITS

Type UP capacitors are the smallest can-type electrolytic units available. They are hermetically sealed in aluminum cans with positive terminal lugs on a bakelite insulating cover, the can being the common negative terminal.

Projecting tongues provide facilities for mounting in a vertical position on metal chassis bodies or on metal or bakelite mounting washer. Bakelite and metal washers are furnished with each unit. The projecting tongues have small wire holes and are tinned for convenient soldering to common negative connections. All solder lugs are mechanically strong, being made of cold rolled steel, although nothing other than pure aluminum comes in contact with the electrolyte within the container to cause galvanic corrosion. Electrically, these Type UP units possess excellent characteristics, having exceptionally low leakage and power factor, and are especially dependable in operation over wide temperature variations with minimum capacity change.


TYPE UP
DIMENSIONS OF METAL AND BAKELITE MOUNTING WASHERS FOR TYPE UP CAPACITORS
METAL WASHER - .025" THICK
BAKELITE WASHER - 1/16" THICK
SEAMLESS ALUMINUM CAN
D.
L
CAPACITOR WINDING
HEAVY ALUMINUM LEAD TABS
VENT HOLE
RING GASKET
MOUNTING TONGUE
9/16
MOULDED BAKELITE TERMINAL BLOCK
SOLDER LUG MOULDED INTO TERMINAL BLOCK
HIGH PURITY ALUMINUM SLEEVE SEALED TO TAB LEAD FROM CAPACITOR
1 5/8"
1 3/32
.130" DIA. HOLE
1 1/4"
WASHER FOR 3/4" DIA. TYPE UP UNITS
1 7/8"
1 11/32"
.130" DIA. HOLE
1 1/2"
WASHER FOR 1" DIA. TYPE UP UNITS
2 3/16"
1 17/32"
.130" DIA. HOLE
1 13/16"
WASHER FOR 1 3/8" DIA. TYPE UP UNITS

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—In. D. x L.	List Price	Net Price
UP 1A J22	40	25	¾ x 2	$0.80	**$0.48**
UP 4A J23	100	25	1 x 2	1.30	**.78**
UP 1A J24	30	150	¾ x 2	.85	**.51**
UP 4A J25	50	150	1 x 2	1.15	**.69**
UP 1A J26	20	250	¾ x 2	.85	**.51**
UP 4A J10	30	250	1 x 2	1.10	**.66**
UP 4A J27	40	250	1 x 2	1.20	**.72**
UP 1A J28	15	300	¾ x 2	.80	**.48**
UP 4A J29	30	300	1 x 2	1.20	**.72**
UP 6A J30	50	350	1 x 3	1.75	**1.05**
UP 9A J31	125	350	1⅜ x 3	3.15	**1.89**
UP 1045	10	450	1 x 2	.90	**.54**
UP 4A J18	15	450	1 x 2	1.20	**.72**
UP 2045	20	450	1 x 2	1.35	**.81**
UP 4045	40	450	1 x 3	1.95	**1.17**
UP 9A J32	80	400	1⅜ x 3	2.95	**1.77**

Dual Section Units

UP 2215	20–20	150	1 x 2	$1.20	**$0.72**
UP 3315	30–30	150	1 x 2	1.35	**.81**
UP 6B J34	50–50	150	1 x 3	1.60	**.96**
UP 2225	20–20	250	1 x 2	1.35	**.81**
UP 4B J36	15–15	300	1 x 2	1.20	**.72**
UP 1145	10–10	450	1 x 2	1.45	**.87**
UP 6B J38	20–20	450	1 x 3	2.00	**1.20**
UP 9B J39	40–40	450	1⅜ x 3	3.20	**1.92**
UP 9B J40	80–10	400	1⅜ x 3	3.30	**1.98**

Triple Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—In. D x L.	List Price	Net Price
UP 4C J2	30–20/20	150/25	1 x 2	$1.40	**$0.84**
UP 6C J41	50–50/20	150/25	1 x 3	1.75	**1.05**
UP 4C J58	20–20/100	150/6	1 x 2	1.35	**.81**
UP 4C J59	40–20/100	150/6	1 x 2	1.45	**.87**
UP 6C J60	20–20/250	150/6	1 x 2	1.45	**.87**
UP 6C J61	40–20/250	150/6	1 x 3	1.75	**1.05**
UP 6C J62	40–20/100	150/12	1 x 3	1.50	**.90**
UP 4C J3	15–15/20	250/25	1 x 2	1.35	**.81**
UP 6C J21	30–30/20	250/25	1 x 3	1.65	**.99**
UP 4C J5	10–10/20	350/25	1 x 2	1.35	**.81**
UP 6C J12	10–10/20	450/25	1 x 3	1.60	**.96**
UP 4C J43	20–20–20	25	1 x 2	1.10	**.66**
UP 4C J1	20–20–20	150	1 x 2	1.45	**.87**
UP 6C J44	40–40–40	150	1 x 3	1.90	**1.14**
UP 6C J45	10–15–30	250	1 x 3	1.60	**.96**
UP 6C J20	20/15–10	450/300–300	1 x 3	1.80	**1.08**
UP 6C J17	15–20–20	450–350–250	1 x 3	2.00	**1.20**
UP 6C J18	10–10–10	450	1 x 3	1.90	**1.14**
UP 6C J47	15–15–15	450	1 x 3	2.10	**1.26**
UP 10C 156	15–15/10	450/300	1 x 3½	1.90	**1.14**

Quadruple Section Units

UP 9D J48	50–50–50/20	150/25	1⅜ x 3	$2.30	**$1.38**
UP 9D J50	20/15–15/20	450/350/25	1⅜ x 3	2.25	**1.35**
UP 7D J51	10–10–10/20	450/25	1⅜ x 2	2.05	**1.23**
UP 7D J52	20–15/20–20	450/25	1⅜ x 2	2.20	**1.32**
UP 9D J53	40–30–10/20	450/25	1⅜ x 3	3.40	**2.04**
UP 7D J54	10–10–10–10	450	1⅜ x 2	2.30	**1.38**
UP 9D J55	20–20/30–30	450/300	1⅜ x 3	3.10	**1.86**
UP 9D J56	20–20–20–20	450	1⅜ x 3	3.30	**1.98**

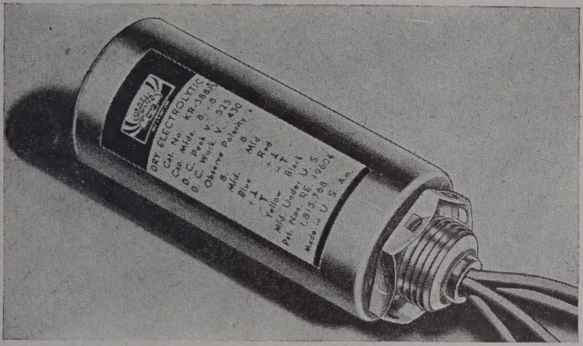
Hardware For Type UP Capacitors

Cat. No.	Item	Description	List Price	Net Price
22272	Wrench for	Mounting Type UP Units	$0.90	**$0.54**
19891	Bakelite Washer	For ¾" UP	.06	**.04**
19884	Bakelite Washer	For 1" UP	.06	**.04**
19888	Bakelite Washer	For 1⅜" UP	.06	**.04**
19890	Metal Washer	For ¾" UP	.06	**.04**
19883	Metal Washer	For 1" UP	.06	**.04**
19887	Metal Washer	For 1⅜" UP	.06	**.04**
21368-1	Mounting Clip	For ¾" UP	.12	**.07**
21368-2	Mounting Clip	For 1" UP	.12	**.07**
21368-3	Mounting Clip	For 1⅜" UP	.12	**.07**
22153-1	Insulating Tube	For ¾ x 2" UP	.06	**.04**
22153-4	Insulating Tube	For 1 x 2" UP	.06	**.04**
22153-6	Insulating Tube	For 1 x 3" UP	.06	**.04**
22153-7	Insulating Tube	For 1⅜ x 2" UP	.06	**.04**
22153-9	Insulating Tube	For 1⅜ x 3" UP	.06	**.04**

CORNELL DUBILIER

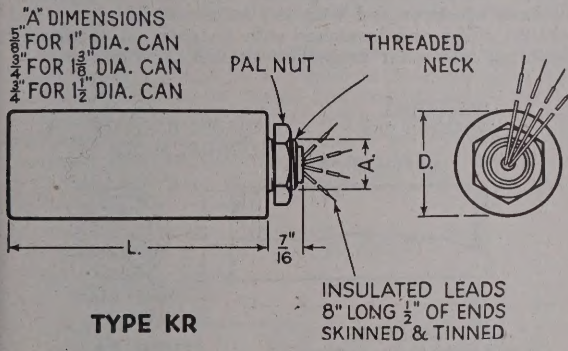
CORNELL-DUBILIER C-D CAPACITORS

ONE-HOLE MOUNTING DRY ELECTROLYTIC CAPACITORS



TYPE KR CYLINDRICAL CAN UNITS

Types KR and KRC single-hole mounting units are compact etched foil type dry electrolytic capacitors furnished in cylindrical (inverted mounting) aluminum cans. Available in single, dual and triple sections with color-coded leads. Made in all popular voltage ratings for use in A.C.-D.C. or voltage-doubler midgets and A.C. operated sets.



TYPE KR

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
KR 105	50	25	1 x 2 9/16	$1.30	**$0.78**
KR 204	4	250	1 x 2 9/16	.90	**.54**
KR 208	8	250	1 x 2 9/16	1.15	**.69**
KR 212	12	250	1 x 2 9/16	1.35	**.81**
KR 225	25	250	1 x 3½	1.80	**1.08**
KR 350	50	300	1⅜ x 3¾	3.30	**1.98**
KR 504	4	450	1 x 2½	1.05	**.63**
KR 508	8	450	1 x 2½	1.30	**.78**
KR 512A	12	450	1 x 2½	1.70	**1.02**
KR 516A	16	450	1 x 3½	1.90	**1.14**
KR 520	20	450	1⅜ x 2½	2.25	**1.35**
KR 530	30	450	1⅜ x 3½	2.50	**1.50**
KR 540	40	450	1⅜ x 4⅜	2.75	**1.65**
KR 604	4	600	1⅜ x 3½	2.25	**1.35**
KR 608	8	600	1⅜ x 4½	3.15	**1.89**
KR 616	16	600	1½ x 4½	4.20	**2.52**

Common Negative Units

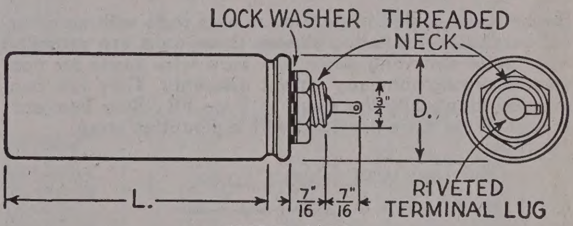
Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
KRC 248	4–8	250	1 x 3	$1.60	**$0.96**
KRC 288	8–8	250	1 x 3	1.75	**1.05**
KRC 2888	8–8–8	250	1⅜ x 3	2.55	**1.53**
KRC 548	4–8	450	1 x 3	1.75	**1.05**
KRC 588	8–8	450	1⅜ x 2½	1.95	**1.17**
KRC 5116	16–16	450	1⅜ x 3½	2.70	**1.62**
KRC 5220	20–20	450	1⅜ x 4⅜	2.85	**1.65**
KRC 5888	8–8–8	450	1⅜ x 3½	2.80	**1.68**

Separate Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
KR 248	4–8	250	1⅜ x 2¾	$1.60	**$0.96**
KR 288	8–8	250	1⅜ x 2¾	1.75	**1.05**
KR 2888	8–8–8	250	1⅜ x 3½	2.55	**1.53**
KR 2881	8–8–16	250	1⅜ x 3½	2.85	**1.71**
KR 2811	8–16–16	250	1⅜ x 3½	3.15	**1.89**
KR 548A	4–8	450	1⅜ x 3	1.75	**1.05**
KR 588A	8–8	450	1⅜ x 3	1.95	**1.17**
KR 5816A	8–16	450	1⅜ x 4½	2.30	**1.38**
KR 5888A	8–8–8	450	1⅜ x 4½	2.80	**1.68**

TYPE WR REPLACEMENTS FOR WET ELECTROLYTIC CAPACITORS

These dry electrolytic capacitors furnished in cylindrical aluminum cans are offered as substitutes for replacement of wet electrolytic units which have been discontinued in manufacture during the war. The limited range of capacities listed below cover practically all applications in standard radio receivers and other equipment in which wet type electrolytic capacitors were originally employed.



TYPE WR
WET ELECTROLYTIC REPLACEMENT

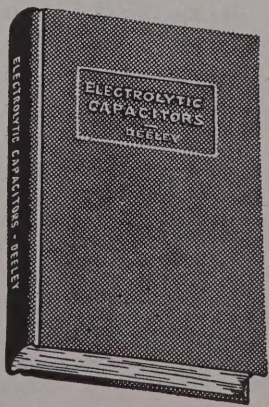
TYPE WR – 500-Volt D.C. Wet Electrolytic Replacements

Cat. No.	Cap. Mfd.	Replacement for	Size—Ins. Dia. x Lth.	List Price	Net Price
WR 10	10	4 to 12 mfd.	1⅜ x 2½	$1.15	**$0.69**
WR 20	20	16 to 20 mfd.	1⅜ x 2½	1.65	**.99**
WR 30	30	20 to 30 mfd.	1⅜ x 3¼	1.90	**1.14**
WR 40	40	30 to 40 mfd.	1⅜ x 3¼	2.00	**1.20**

For one-inch diameter can wet electrolytic replacements we recommend employing C-D Type KR capacitors in one-inch diameter cans of equivalent capacity and voltage ratings.

"ELECTROLYTIC CAPACITORS"

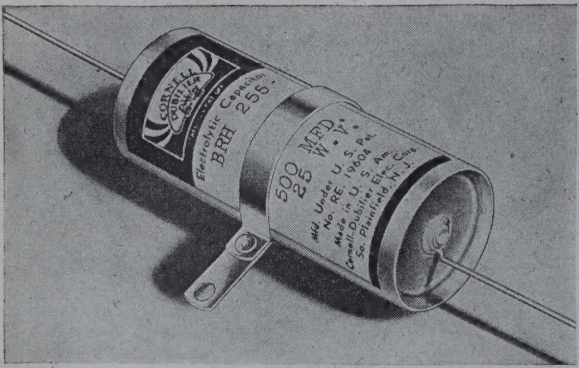
By PAUL McK. DEELEY


ELECTROLYTIC CAPACITORS DEELEY
ELECTROLYTIC CAPACITORS - DEELEY

This instructive book supplies the reader with specific information concerning the many factors involved in the theory, design and construction of electrolytics. It is profusely illustrated and describes all applications of electrolytic capacitors. 300 pages, size 5½" x 7⅞", cloth bound hard cover. Every page is a gold mine of facts and data.

This 300-page book postpaid — for only **$1.00 net**

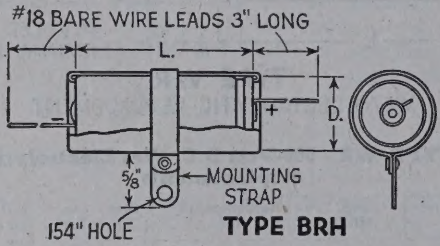
HIGH CAPACITY DRY ELECTROLYTIC CAPACITORS


Cornell-Dubilier
Electrolytic Capacitor
BRH 255.
500 MFD.
25 W.V.
Mfd. Under U.S. Pat. No. RE. 19604
Made in U.S. Am.
Cornell-Dubilier Elec. Corp.
So. Plainfield, N.J.

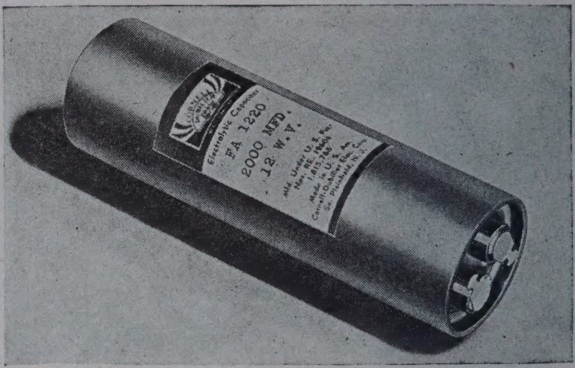
TYPE BRH HIGH-CAPACITY LOW-VOLTAGE UNITS

These compact C-D etched foil electrolytic capacitors have been especially designed for all applications requiring high capacity units operating in low voltage D.C. circuits. They are widely employed in portable radio power rectifying circuits, electric fence devices, telephone and D.C. timing circuits. Units are available in standard capacities and voltage ratings for all uses.

Hermetically sealed in pure aluminum cans with an external cardboard insulating sleeve, these units are provided with metal mounting strap and bare wire leads for convenient wiring into any circuit assembly. They are constructed identically the same as Type BR "Blue Beavers" except all units are provided with a mounting strap.

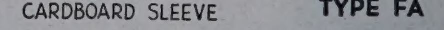

#18 BARE WIRE LEADS 3" LONG
L.
D.
−
+
5/8"
MOUNTING STRAP
.154" HOLE
TYPE BRH

Cat. No.	Cap. Mfd.	D.C. W.Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
BRH 601	100	6	⅝ x 1¹⁄₁₆	$0.90	**$0.54**
BRH 6025	250	6	⅝ x 1⁷⁄₁₆	1.15	**.69**
BRH 605	500	6	⅝ x 2½	1.50	**.90**
BRH 610	1000	6	⅞ x 2	2.10	**1.26**
BRH 615	1500	6	⅞ x 2½	2.70	**1.62**
BRH 620	2000	6	1 x 2½	3.30	**1.98**
BRH 121	100	12	⅝ x 1⁷⁄₁₆	1.00	**.60**
BRH 1225	250	12	¾ x 2	1.30	**.78**
BRH 125	500	12	⅞ x 2½	1.80	**1.08**
BRH 151	100	15	⅝ x 1⁷⁄₁₆	1.05	**.63**
BRH 1525	250	15	¾ x 2	1.50	**.90**
BRH 155	500	15	⅞ x 2½	2.10	**1.26**
BRH 251	100	25	⅝ x 2	1.10	**.66**
BRH 2525	250	25	⅞ x 2	1.80	**1.08**
BRH 255	500	25	1 x 2½	2.70	**1.62**
BRH 501	100	50	¾ x 2	1.20	**.72**


Cornell-Dubilier
Electrolytic Capacitor
FA 1220
2000 MFD.
12 W.V.
Mfd. Under U.S. Pat.
Made in U.S. Am.
Cornell-Dubilier Elec. Corp.
So. Plainfield, N.J.

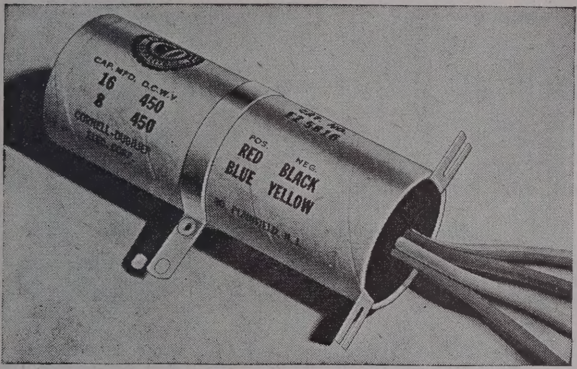
TYPE FA HIGH-CAPACITY LOW-VOLTAGE UNITS

Type FA capacitors in round aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, "A" battery power supplies and other low voltage circuits where hum-free operation is essential. All units are provided with lug terminals on a moulded bakelite cover and furnished with an external cardboard insulating sleeve for protection against short circuits.


INSULATING CARDBOARD DISC
ALUMINUM CAN
MOULDED BAKELITE TERMINAL BLOCK
D.
L
SOLDERED LUG TERMINALS
INSULATING CARDBOARD SLEEVE
TYPE FA

Cat. No.	Cap. Mfd.	D.C. W.Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
FA 1205	500	12	1⅜ x 2½	$ 1.80	**$1.08**
FA 1210	1000	12	1⅜ x 3¼	3.00	**1.80**
FA 1215	1500	12	1⅜ x 4⅛	3.60	**2.16**
FA 1220	2000	12	1⅜ x 4⅛	3.90	**2.34**
FA 1225	2500	12	1½ x 4⅛	4.50	**2.70**
FA 1230	3000	12	1½ x 4⅛	4.80	**2.88**
FA 1240	4000	12	1¾ x 4⅛	6.60	**3.96**
FA 1505	500	15	1⅜ x 2½	2.10	**1.26**
FA 1510	1000	15	1⅜ x 3¼	3.60	**2.16**
FA 1520	2000	15	1⅜ x 4⅛	4.50	**2.70**
FA 1530	3000	15	1½ x 4⅛	6.30	**3.78**
FA 1540	4000	15	1¾ x 4⅛	9.60	**5.76**
FA 1805	500	18	1⅜ x 2½	2.40	**1.44**
FA 1810	1000	18	1⅜ x 3¼	3.60	**2.16**
FA 1820	2000	18	1⅜ x 4⅛	4.80	**2.88**
FA 1840	4000	18	1¾ x 4⅛	10.80	**6.48**
FA 2005	500	20	1⅜ x 3¼	2.70	**1.62**
FA 2010	1000	20	1⅜ x 4⅛	3.90	**2.34**
FA 2020	2000	20	1¾ x 4⅛	5.40	**3.24**
FA 2040	4000	20	2 x 4⅛	12.00	**7.20**
FA 2505	500	25	1⅜ x 3¼	2.70	**1.62**
FA 2510	1000	25	1⅜ x 4⅛	4.20	**2.52**
FA 2520	2000	25	1¾ x 4⅛	7.20	**4.32**
FA 2540	4000	25	2 x 4⅛	15.00	**9.00**
FA 3010	1000	30	1¾ x 4⅛	4.50	**2.70**
FA 3020	2000	30	2½ x 4⅛	9.60	**5.76**
FA 3040	4000	30	3 x 4⅛	17.40	**10.44**
FA 3505	500	35	1⅜ x 4⅛	3.60	**2.16**
FA 3510	1000	35	1¾ x 4⅛	4.80	**2.88**
FA 3520	2000	35	2½ x 4⅛	10.80	**6.48**
FA 3530	3000	35	3 x 4⅛	15.90	**9.54**
FA 4010	1000	40	1¾ x 4⅛	5.40	**3.24**
FA 4020	2000	40	2½ x 4⅛	12.00	**7.20**
FA 5005	500	50	1⅜ x 4⅛	3.90	**2.34**
FA 5010	1000	50	1¾ x 4⅛	7.20	**4.32**
FA 5020	2000	50	2½ x 4⅛	15.00	**9.00**

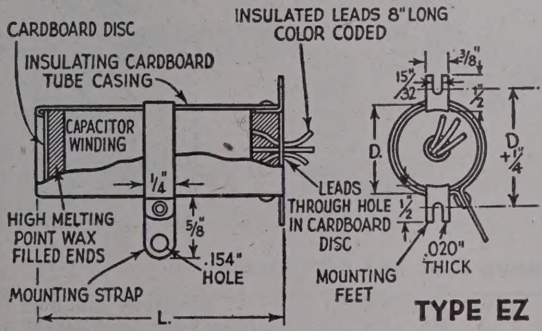
CARDBOARD TUBE DRY ELECTROLYTIC CAPACITORS



TYPE EZ UNIVERSAL-MOUNTING UNITS

Type EZ capacitors are especially popular for radio servicing where low cost replacements are required. They are designed with mounting feet for upright mounting to replace inverted can-type units, spade-lug units, or may be mounted beneath the chassis by means of the mounting strap provided around the center of the cardboard tube casing. In any instance, the unused mountings may easily be cut off.

These units are without doubt the most practical all-around replacement capacitors available and incorporate C-D etched foil features in design and construction. They are completely sealed in moisture-proof cardboard tube casing, filled with special wax compound, and provided with insulated wire leads eight inches long. All units are clearly stamped with capacities, voltages and color code designation of leads.


CARDBOARD DISC
INSULATED LEADS 8" LONG COLOR CODED
INSULATING CARDBOARD TUBE CASING
CAPACITOR WINDING
1/4"
HIGH MELTING POINT WAX FILLED ENDS
5/8"
.154" HOLE
MOUNTING STRAP
L.
LEADS THROUGH HOLE IN CARDBOARD DISC
D.
15/32"
3/8"
1/2"
D. + 1/4"
1/2"
.020" THICK
MOUNTING FEET
TYPE EZ

COLOR CODING OF WIRE LEADS ON TYPE EZ CAPACITORS

BLACK	—Common negative lead.
RED	—Positive, highest voltage or capacity.
BLUE	—Positive, next highest voltage or capacity.
GREEN	—Positive, next highest voltage or capacity.
YELLOW	—Positive, next highest voltage or capacity, or negative in units where two separate negative terminals are required.
BROWN	—Negative, in units where three separate negative terminals are required.

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
EZ 825	8	250	7/8 x 2 1/2	$0.65	**$0.39**
EZ 1625	16	250	1 x 2 3/4	.90	**.54**
EZ 2425	24	250	1 1/16 x 2 3/4	1.05	**.63**
EZ 835	8	350	15/16 x 2 1/2	.70	**.42**
EZ 1235	12	350	15/16 x 2 3/4	.85	**.51**
EZ 1635	16	350	1 x 2 3/4	1.00	**.60**
EZ 2435	24	350	1 x 3 1/2	1.20	**.72**
EZ 845	8	450	7/8 x 2 3/4	.75	**.45**
EZ 1245	12	450	1 x 2 3/4	.90	**.54**
EZ 1645	16	450	1 1/16 x 2 3/4	1.10	**.66**
EZ 3045	30	450	1 1/4 x 3 1/2	2.10	**1.26**

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
Dual Common Negative Units					
EZ 2215	20–20	150	1 x 2 1/2	$1.50	**$0.90**
EZ 3315	30–30	150	1 1/16 x 2 3/4	1.75	**1.05**
EZ 5515	50–50	150	1 1/16 x 3 1/2	2.00	**1.20**
EZ 8825	8–8	250	1 x 2 3/4	1.05	**.63**
EZ 8835	8–8	350	15/16 x 3 1/2	1.15	**.69**
EZ 8845	8–8	450	1 x 3 1/2	1.30	**.78**
Dual Separate Section Units					
EZ 288	8–8	250	1 3/8 x 2 3/4	$1.30	**$0.78**
EZ 2116	16–16	250	1 3/8 x 3 3/4	2.00	**1.20**
EZ 388	8–8	350	1 3/8 x 3	1.50	**.90**
EZ 3112	12–12	350	1 3/8 x 3 3/4	1.90	**1.14**
EZ 3116	16–16	350	1 3/8 x 4 3/4	2.20	**1.32**
EZ 588	8–8	450	1 3/8 x 3	1.65	**.99**
EZ 5816	8–16	450	1 3/8 x 3 3/4	2.00	**1.20**
EZ 5112	12–12	450	1 3/8 x 3 3/4	2.00	**1.20**
EZ 5116	16–16	450	1 3/8 x 4 3/4	2.40	**1.44**
Triple Common Negative Units					
EZ 2215C	20–20/20	150/25	1 x 3	$1.75	**$1.05**
EZ 3215C	30–20/20	150/25	1 x 3	1.90	**1.14**
EZ 3115C	30–10/20	150/25	1 x 3	1.75	**1.05**
EZ 4215C	40–20/20	150/25	1 1/16 x 3	1.80	**1.08**
EZ 32115	30–20–10	150	1 1/8 x 2 3/4	1.80	**1.08**
EZ 42215	40–20–20	150	1 1/8 x 3	2.00	**1.20**
EZ 1A135C	15–10/20	350/25	1 1/8 x 3 1/2	2.00	**1.20**
EZ 2143C	20/10/20	400/350/25	1 3/8 x 3 1/8	2.25	**1.35**
Triple Separate Section Units*					
EZ 8825S	8–8/20	250/25	1 3/8 x 3	$1.85	**$1.11**
EZ 8835S	8–8/20	350/25	1 3/8 x 3 3/4	1.80	**1.08**
EZ 12D35S	12–12/20	350/25	1 3/8 x 3 3/4	2.30	**1.38**
EZ 16D35S	16–16/20	350/25	1 3/8 x 4 3/4	2.55	**1.53**
EZ 8845S	8–8/20	450/25	1 3/8 x 3 3/4	2.00	**1.20**
EZ 12D45S	12–12/20	450/25	1 3/8 x 4 3/4	2.40	**1.44**
EZ 88825	8–8–8	250	1 3/8 x 3	2.00	**1.20**
EZ 88835	8–8–8	350	1 3/8 x 3 3/4	2.00	**1.20**
EZ 88845	8–8–8	450	1 3/8 x 3 3/4	2.25	**1.35**
Quadruple Common Negative Units					
EZ 8815CC	8–8/10–10	150/25	1 x 2 3/4	$1.75	**$1.05**
EZ 3215CC	30–20/10–10	150/25	1 3/16 x 2 3/4	2.20	**1.32**
EZ 42215C	40–20–20/20	150/25	1 3/16 x 3	2.25	**1.35**
EZ 53215C	50–30–20/20	150/25	1 3/16 x 3 1/2	2.45	**1.47**
EZ 44315C	40–40–30/20	150/25	1 3/16 x 3 1/2	2.50	**1.50**
EZ 55515C	50–50–50/20	150/25	1 3/8 x 3 1/2	2.75	**1.65**
Quadruple Separate Section Units*					
EZ 16D15SS	16–16/10–10	150/25	1 3/8 x 3	$2.30	**$1.38**
EZ 8815SS	8–8/10–10	450/25	1 3/8 x 3 3/4	2.40	**1.44**
EZ 43215SS	40–30–20/20	150/25	1 3/8 x 3 3/4	3.25	**1.95**

***First section separate, others common negative.**

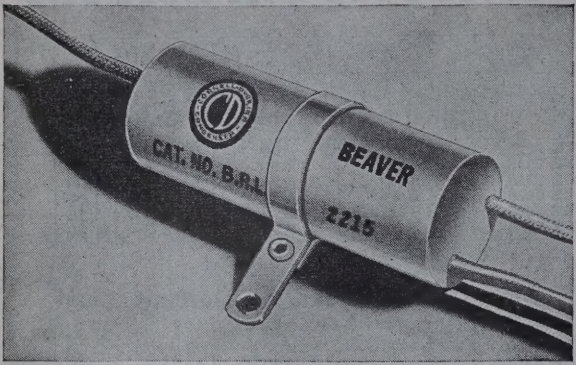
EXPLANATION OF TERMINAL CONNECTIONS IN MULTIPLE SECTION TYPE EZ CAPACITORS

In all cases only a single common negative lead is provided to all sections in multiple section capacitors listed under the heading of Common Negative Units. Separate Section Units are provided with separate negative and separate positive leads.

In triple and quadruple section capacitors with separate sections, indicated with an asterisk (*), the very first capacity listed is a separate section, having separate negative and positive leads, while all other capacities shown are connected to a single common negative lead with separate positive leads to each section.

CORNELL DUBILIER

CARDBOARD TUBE DRY ELECTROLYTIC CAPACITORS


CATALOG NO. B.R.L.
BEAVER
2215

TYPE BRL CARDBOARD TUBE UNITS

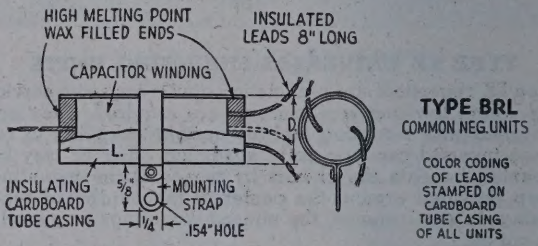
Type BRL Capacitors are dual and triple common negative units in cardboard tube containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the cardboard tube casing. Units are provided with insulated wire leads brought out at both ends of the unit. A mounting strap around the center of the cardboard tube casing enables mounting the unit with one screw under the chassis assembly.

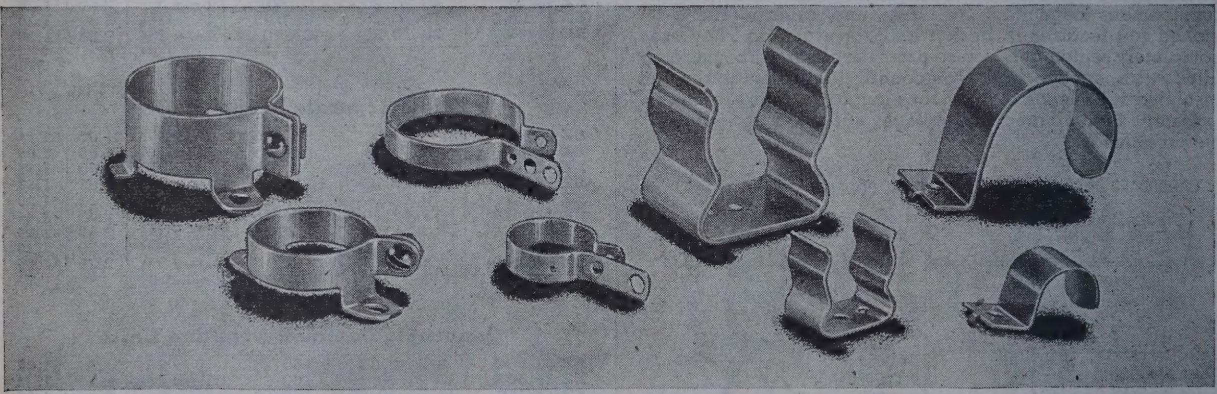
Dual Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
BRL 2101	10–10	25	⅝ x 1¾	$0.85	**$0.51**
BRL 115	10–10	50	⅝ x 2¼	1.00	**.60**
BRL 2115	20–10	150	⅞ x 2½	1.15	**.69**
BRL 2215	20–20	150	⅞ x 2½	1.30	**.78**
BRL 4215	40–20	150	15/16 x 2½	1.40	**.84**
BRL 8125	8–16	250	⅞ x 2¾	1.30	**.78**
BRL 1125	16–16	250	1 x 2¾	1.50	**.90**
BRL 8845	8–8	450	1 x 2¾	1.30	**.78**
BRL 8145	8–16	450	1 1/16 x 3¼	1.65	**.99**

Triple Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
BRL 2215C	20–20/20	150/25	1 x 2½	$1.75	**$1.05**
BRL 4215C	40–20/20	150/25	1 x 2¾	1.90	**1.14**
BRL 5315C	50–30/20	150/25	1⅛ x 3	2.25	**1.35**


HIGH MELTING POINT WAX FILLED ENDS
INSULATED LEADS 8" LONG
CAPACITOR WINDING
D.
L.
INSULATING CARDBOARD TUBE CASING
5/8"
1/4"
MOUNTING STRAP
.154" HOLE
TYPE BRL
COMMON NEG. UNITS
COLOR CODING OF LEADS STAMPED ON CARDBOARD TUBE CASING OF ALL UNITS



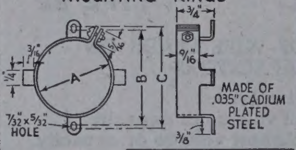
Mounting Rings, Tubular Straps, Mounting Clips and "C" Clamps

CAPACITOR MOUNTING HARDWARE

Additional hardware for mounting all types of electrolytic capacitors as well as tubular paper units is available as shown in the accompanying diagrams and listed below.

Part No.	Description	List Price	Net Price
14582	Mounting Ring for 1" dia. Cans	$0.08	**$0.05**
12125	Mounting Ring for 1⅜" dia. Cans	.08	**.05**
15591	Mounting Ring for 1½" dia. Cans	.12	**.07**
16693	Mounting Ring for 1¾" dia. Cans	.14	**.09**
14464	Mounting Ring for 2" dia. Cans	.18	**.11**
13590	Mounting Ring for 2½" dia. Cans	.18	**.11**
13591	Mounting Ring for 3" dia. Cans	.18	**.11**
15266	Mounting Ring for 3½" dia. Cans	.18	**.11**
17842	Mounting Ring for 1" dia. Cans	.08	**.05**
19213	Mounting Ring for 1⅛" dia. Cans	.08	**.05**
18573	Mounting Ring for 1¼" dia. Cans	.08	**.05**
17843	Mounting Ring for 1⅜" dia. Cans	.08	**.05**
17844	Mounting Ring for 1½" dia. Cans	.12	**.07**
21368-1	Mounting Clip for ¾" dia. Cans	.12	**.07**
21368-2	Mounting Clip for 1" dia. Cans	.12	**.07**
21368-3	Mounting Clip for 1⅜" dia. Cans	.12	**.07**
17920	"C" Clamp for ⅝"–¾" Cans or Tubulars	.12	**.07**
17921	"C" Clamp for ⅞"–1" Cans or Tubulars	.12	**.07**
17922	"C" Clamp for 1⅛"–1¼" Cans or Tubulars	.12	**.07**
17923	"C" Clamp for 1⅜"–1½" Cans or Tubulars	.12	**.07**
16279 to 16287	Tubular Straps for Mounting All Types of Tubular Units	.06	**.04**

MOUNTING RINGS

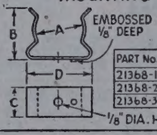

3/4"
3/16"
5/16"
1/4"
A
B
C
9/16"
7/32" x 5/32" HOLE
3/8"
MADE OF .035" CADIUM PLATED STEEL

FOR CAN SIZES 1" TO 1½" DIA.

*INSIDE DIAMETER (CAN DIAMETER SIZE)

PART No.	A*	B	C
17842	1	1⅜	1½
19213	1⅛	1 17/32	1 21/32
18573	1¼	1⅝	1¾
17843	1⅜	1 11/16	1⅞
17844	1½	1⅞	2

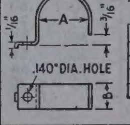
MOUNTING CLIPS


B
A
EMBOSSED 1/8" DEEP
D
C
1/8" DIA. HOLE

MADE OF CADIUM PLATED STEEL

PART No.	A	B	C	D	FOR CAN SIZE
21368-1	11/16	25/32	½	25/32	¾"
21368-2	29/32	1 3/64	19/32	1 1/16	1"
21368-3	1 7/32	1½	⅞	1 7/16	1⅜"

"C" CLAMPS

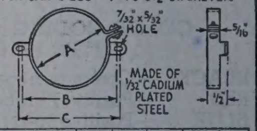

1/16"
A
3/16"
.140" DIA. HOLE
B

MADE OF CADIUM PLATED STEEL

PART No.	A. FOR TUBE SIZE	B
17920	⅝" - ¾"	½
17921	⅞" - 1"	½
17922	1⅛" - 1¼"	¾
17923	1⅜" - 1½"	¾

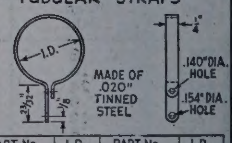
MOUNTING RINGS

FOR CAN SIZES - 1" TO 3½" DIAMETER


7/32" x 5/32" HOLE
A
B
C
5/16"
1/2"
MADE OF 1/32" CADIUM PLATED STEEL

PART No.	A	B	C	FOR CAN SIZE
14582	31/32	1⅜	1½	1"
12125	1 11/32	1 11/16	1 13/16	1⅜"
15591	1 15/32	1 13/16	1 15/16	1½"
16693	1 23/32	2 3/16	2 5/16	1¾"
14464	1 31/32	2 7/16	2 9/16	2"
13590	2 15/32	2 15/16	3 1/16	2½"
13591	2 31/32	3 7/16	3 9/16	3"
15266	3 15/32	3 15/16	4 1/16	3½"

TUBULAR STRAPS


I.D.
23/32"
1/8"
MADE OF .020" TINNED STEEL
1/4"
.140" DIA. HOLE
.154" DIA. HOLE

PART No.	I.D.	PART No.	I.D.
16279	7/16	20440	15/16
16280	½	27950	1
17203	9/16	21187	1 1/16
17516	⅝	21068-1	1⅛
16285	11/16	19033-1	1¼
17517	¾	17673-1	1⅜
27886	⅞	17606	1½

TUBULAR PAPER CAPACITORS

TYPES DT AND MD TUBULAR UNITS

Type DT, "Dwarf Tiger" capacitors are non-inductively wound, wax impregnated units in specially treated cardboard tubes with high melting point wax filled ends. They have tinned-copper wire leads 2½" long.

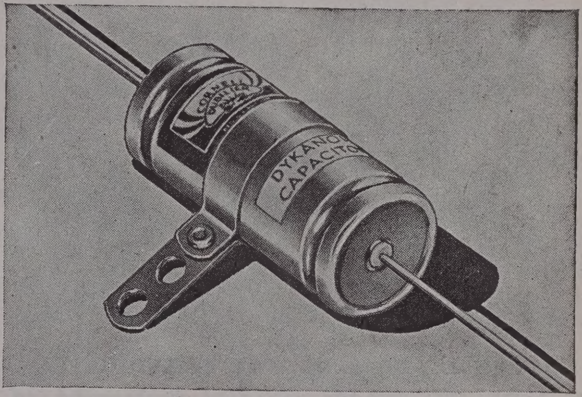
Type MD "Blue Tiger" capacitors are impregnated with Dykanol "D" which provides longer life under more severe conditions of humidity and temperature.

TYPE DT—Wax Impregnated Units

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		400 V. D.C.		
DT 4S1	.01	13/32 x 1¼	$0.20	$0.12
DT 4S15	.015	13/32 x 1¼	.20	.12
DT 4S2	.02	⅜ x 1⅜	.20	.12
DT 4S25	.025	⅜ x 1⅜	.20	.12
DT 4S3	.03	15/32 x 1⅜	.20	.12
DT 4S4	.04	15/32 x 1⅝	.20	.12
DT 4S5	.05	15/32 x 1⅝	.20	.12
DT 4S6	.06	½ x 1⅝	.25	.15
DT 4P1	.1	19/32 x 1⅝	.25	.15
DT 4P2	.2	11/16 x 2	.30	.18
DT 4P25	.25	11/16 x 2	.30	.18
DT 4P5	.5	⅞ x 2⅛	.45	.27
DT 4W1	1.	1 x 2⅝	.60	.36
		600 V. D.C.		
DT 6T1	.0001	11/32 x 1 3/16	.20	.12
DT 6T25	.00025	11/32 x 1 3/16	.20	.12
DT 6T5	.0005	11/32 x 1 3/16	.20	.12
DT 6D1	.001	11/32 x 1¼	.20	.12
DT 6D2	.002	13/32 x 1¼	.20	.12
DT 6D3	.003	13/32 x 1¼	.20	.12
DT 6D4	.004	13/32 x 1¼	.20	.12
DT 6D5	.005	13/32 x 1¼	.20	.12
DT 6D6	.006	13/32 x 1¼	.20	.12
DT 6S1	.01	7/16 x 1⅜	.20	.12
DT 6S15	.015	13/32 x 1⅝	.20	.12
DT 6S2	.02	15/32 x 1⅝	.20	.12
DT 6S25	.025	15/32 x 1⅝	.25	.15
DT 6S3	.03	½ x 1⅝	.25	.15
DT 6S4	.04	9/16 x 1⅝	.25	.15
DT 6S5	.05	19/32 x 1⅝	.25	.15
DT 6S6	.06	⅝ x 1⅝	.30	.18
DT 6P1	.1	11/16 x 1⅞	.30	.18
DT 6P2	.2	13/16 x 2⅛	.45	.27
DT 6P25	.25	⅞ x 2⅛	.45	.27
DT 6P3	.3	1 x 2⅛	.55	.33
DT 6P5	.5	1 x 2¾	.60	.36

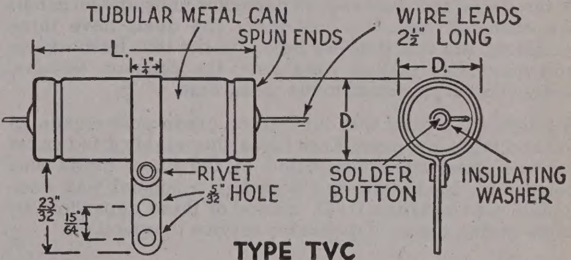
TYPE MD—Dykanol "D" Impregnated Units

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		1600 V. D.C.		
MD 16D1	.001	⅜ x 1¼	.45	.27
MD 16D2	.002	15/32 x 1¼	.45	.27
MD 16D25	.0025	15/32 x 1½	.45	.27
MD 16D3	.003	15/32 x 1½	.45	.27
MD 16D4	.004	½ x 1½	.45	.27
MD 16D5	.005	9/16 x 1½	.45	.27
MD 16D6	.006	9/16 x 1½	.45	.27
MD 16D7	.007	⅝ x 1½	.45	.27
MD 16D8	.008	⅝ x 1½	.45	.27
MD 16S1	.01	9/16 x 2	.45	.27
MD 16S15	.015	⅝ x 2	.45	.27
MD 16S2	.02	11/16 x 2	.45	.27
MD 16S25	.025	¾ x 2	.45	.27
MD 16S3	.03	25/32 x 2	.45	.27
MD 16S4	.04	15/16 x 2	.50	.30
MD 16S5	.05	1 x 2	.55	.33



TYPE TVC METAL TUBULARS

Type TVC capacitors are compact tubular metal can type units designed to withstand severe climatic conditions. They are non-inductively wound, impregnated and filled with Dykanol "B" to maintain high insulation resistance.



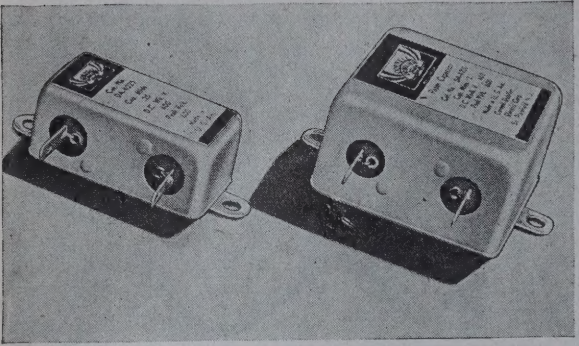
TYPE TVC

TYPE TVC—Dykanol Impregnated and Filled Units in Metal Tube Containers

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		400 V. D.C.		
TVC 4D5	.005	17/32 x 1 5/16	$0.70	$0.42
TVC 4S1	.01	17/32 x 1 5/16	.70	.42
TVC 4S15	.015	17/32 x 1 5/16	.70	.42
TVC 4S2	.02	17/32 x 1 5/16	.70	.42
TVC 4S3	.03	17/32 x 1 5/16	.75	.45
TVC 4S4	.04	17/32 x 1 5/16	.75	.45
TVC 4S5	.05	17/32 x 1 9/16	.75	.45
TVC 4P1	.1	⅝ x 1 9/16	.80	.48
TVC 4P25	.25	¾ x 2 1/16	.90	.54
TVC 4P5	.5	1 x 2 1/16	.95	.57
		600 V. D.C.		
TVC 6D5	.005	17/32 x 1 5/16	.75	.45
TVC 6S1	.01	17/32 x 1 5/16	.75	.45
TVC 6S15	.015	17/32 x 1 5/16	.75	.45
TVC 6S2	.02	17/32 x 1 5/16	.75	.45
TVC 6S3	.03	17/32 x 1 5/16	.80	.48
TVC 6S4	.04	⅝ x 1 9/16	.80	.48
TVC 6S5	.05	⅝ x 1 9/16	.80	.48
TVC 6P1	.1	¾ x 1 9/16	.90	.54
TVC 6P25	.25	⅞ x 2 1/16	1.35	.81
TVC 6P5	.5	1 x 2 13/16	1.90	1.14
		1000 V. D.C.		
TVC 10D5	.005	17/32 x 1 5/16	.80	.48
TVC 10S1	.01	17/32 x 1 5/16	.80	.48
TVC 10S15	.015	17/32 x 1 9/16	.80	.48
TVC 10S2	.02	17/32 x 1 9/16	.80	.48
TVC 10S3	.03	⅝ x 1 9/16	.85	.51
TVC 10S4	.04	⅝ x 2 1/16	.85	.51
TVC 10S5	.05	⅝ x 2 1/16	.90	.54
TVC 10P1	.1	¾ x 2 1/16	1.20	.72
		1600 V. D.C.		
TVC 16D5	.005	17/32 x 1 9/16	.90	.54
TVC 16S1	.01	17/32 x 1 9/16	.90	.54
TVC 16S15	.015	⅝ x 1 9/16	.90	.54
TVC 16S2	.02	⅝ x 2 1/16	.90	.54
TVC 16S3	.03	⅞ x 2 1/16	.90	.54
TVC 16S4	.04	⅞ x 2 1/16	1.00	.60
TVC 16S5	.05	⅞ x 2 1/16	1.10	.66

NOTE—For units provided with cardboard insulating sleeve over metal tube, add 10c to list price.

DRAWN METAL SHELL PAPER CAPACITORS

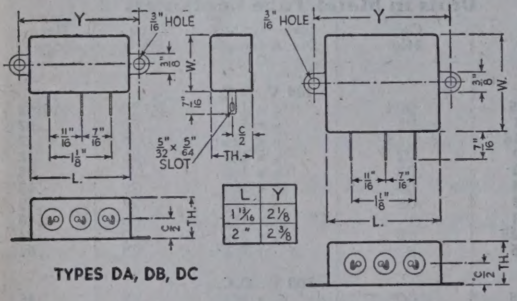


TYPES DA, DB & DC WAX FILLED UNITS

Types DA to DC capacitors are non-inductively wound and wax-potted in drawn metal shell containers. They are available in a large variety of ratings for radio frequency bypass, audio frequency coupling and bypass functions. Lug terminals are amply insulated. Integral with casing, the mounting feet allow ease of assembly.

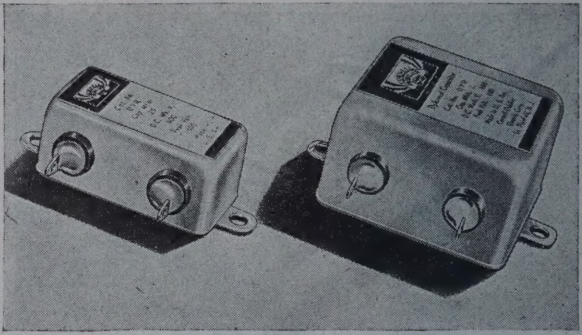
In the single and dual section capacitor units, the terminals are insulated from the container. The duals have three terminals, the common lug being on the left. In the triple and quadruple section capacitors, the common terminal connection is grounded to the metal case.

All units are wound with the highest grade pure aluminum foil and multi-laminated Kraft tissue, thoroughly dried under vacuum pressure, impregnated in the finest grade wax compound, oil-cooled, and potted in a special wax compound. Conservative D. C. ratings of these capacitors by triple testing assure dependable service in operation.



TYPES DA, DB, DC

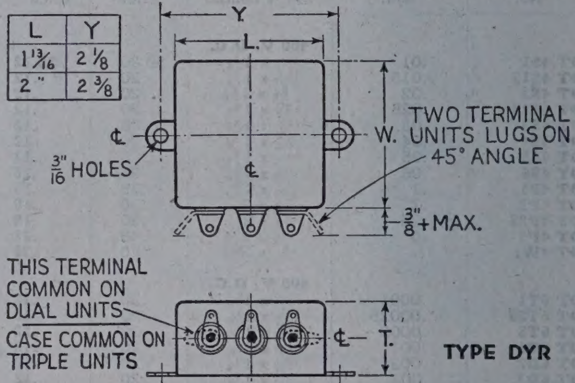
Cat. No.	Capacity Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		400 V.D.C. Work.		
DA 4011	.1	1 13/16 x 1 x ¾	$0.80	**$0.48**
DA 4025	.25	1 13/16 x 1 x ¾	.90	**.54**
DA 4050	.5	1 13/16 x 1 x ⅞	1.15	**.69**
DA 4100	1	2 x 1¾ x 13/16	1.50	**.90**
DA 4200	2	2 x 2 x 1⅛	1.90	**1.14**
DB 4010	.1–.1	1 13/16 x 1 x ¾	1.00	**.60**
DB 4025	.25–.25	2 x 1¼ x ¾	1.20	**.72**
DB 4050	.5–.5	2 x 1¾ x 1	1.50	**.90**
DC 4010	.1–.1–.1	1 13/16 x 1 x ¾	1.30	**.78**
		600 V.D.C. Work.		
DA 6011	.1	1 13/16 x 1 x ¾	.90	**.54**
DA 6025	.25	1 13/16 x 1¼ x ¾	1.10	**.66**
DA 6050	.5	2 x 1¾ x 13/16	1.45	**.87**
DA 6100	1	2 x 2 x 1⅛	1.80	**1.08**



TYPE DYR DYKANOL "G" FILLED UNITS

Type DYR Dykanol Bypass Capacitors are non-inductively wound and meet the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling and A.C. circuits under all humidity conditions and at temperatures up to approximately 85° C. (185° F.). They are built to stand an immersion test in hot water and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications for maximum capacity and voltage in minimum space, where quality and reliability are of paramount importance. They are impregnated and filled with Dykanol "G" and sealed in non-corrosive cases with leakproof riveted terminals.

L	Y
1 13/16	2⅛
2"	2⅜

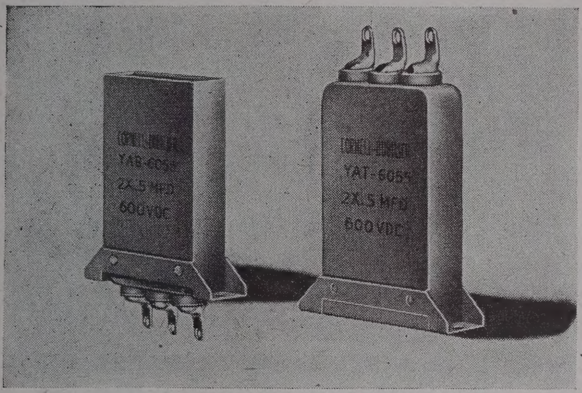

Y
L.
℄
3/16" HOLES
℄
W.
TWO TERMINAL UNITS LUGS ON 45° ANGLE
3/8"+MAX.
THIS TERMINAL COMMON ON DUAL UNITS
CASE COMMON ON TRIPLE UNITS
℄
T.

TYPE DYR

Cat. No.	Capacity. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		600 V.D.C. Work.		
DYR 6005	.05	1 13/16 x 1 x ¾	$2.05	**$1.23**
DYR 6010	.1	1 13/16 x 1 x ¾	2.10	**1.26**
DYR 6025	.25	1 13/16 x 1 x ¾	2.20	**1.32**
DYR 6050	.5	1 13/16 x 1 x ⅞	2.35	**1.41**
DYR 6100	1	2 x 1¾ x ⅞	2.70	**1.62**
DYR 6200	2	2 x 2 x 1⅛	3.60	**2.16**
DYR 60055	.05–.05	1 13/16 x 1 x ¾	2.60	**1.56**
DYR 6011	.1–.1	1 13/16 x 1 x ¾	2.65	**1.59**
DYR 6022	.25–.25	1 13/16 x 1¼ x ¾	2.70	**1.62**
DYR 6055	.5–.5	2 x 1¾ x ⅞	3.10	**1.86**
DYR 6110	1.–1.	2 x 2 x 1⅛	3.80	**2.28**
DYR 6111	.1–.1–.1	1 13/16 x 1 x ¾	3.00	**1.80**
DYR 6222	.25–.25–.25	2 x 1¾ x 13/16	3.40	**2.04**
DYR 6555	.5–.5–.5	2 x 2 x 1⅛	4.10	**2.46**
		1000 V.D.C. Work.		
DYR 10005	.05	1 13/16 x 1 x ¾	2.10	**1.26**
DYR 10010	.1	1 13/16 x 1 x ¾	2.25	**1.35**
DYR 10025	.25	1 13/16 x 1 x ¾	2.30	**1.38**
DYR 10050	.5	2 x 1¾ x 13/16	2.50	**1.50**
DYR 10100	1	2 x 2 x 1⅛	3.30	**1.98**
DYR 100055	.05–.05	1 13/16 x 1 x ¾	2.60	**1.56**
DYR 10011	.1–.1	1 13/16 x 1 x ¾	2.80	**1.68**
DYR 10022	.25–.25	2 x 1¾ x 13/16	3.00	**1.80**
DYR 10055	.5–.5	2 x 2 x 1⅛	3.90	**2.34**
DYR 10111	.1–.1–.1	1 13/16 x 1¼ x ¾	3.30	**1.98**
DYR 10222	.25–.25–.25	2 x 2 x 1⅛	4.20	**2.52**

CORNELL DUBILIER

DRAWN METAL SHELL PAPER CAPACITORS



TYPE YAB AND YAT DYKANOL CAPACITORS

Types YAT and YAB are impregnated and filled with Dykanol "G" (chlorinated diphenyl) a synthetic, non-inflammable, non-oxidizable liquid compound which is unaffected by wide latitude of temperature changes or voltage stresses. They are especially suited for use in bypass, audio frequency coupling circuits and other applications where conditions of high humidity and temperatures are encountered.

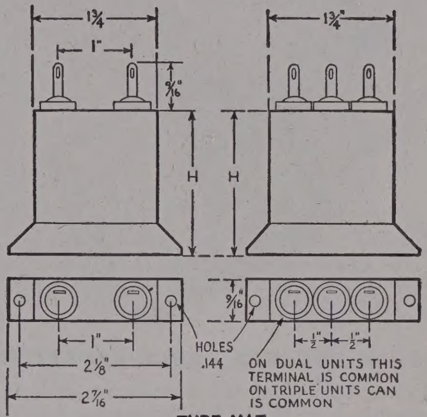
Units are sealed in drawn metal shell containers and provided with leakproof terminals either on top or bottom of the can containers, designated as Types YAT and YAB accordingly. All units are provided with rugged metal mounting brackets which provide rigid mountings. Two or more units may be mounted close together in an assembly.

Single section units are provided with two terminals while dual and triple section units have three terminals. In single and dual section units terminals are insulated from the metal container. The third terminal of dual section units is the common terminal and marked for identification. In triple section units the common terminal connection is grounded to the metal case.

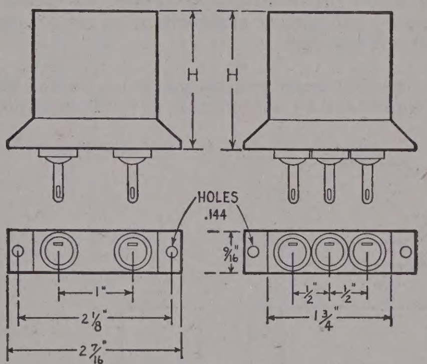
Types WAT and WAB Capacitors are smaller size units of similar construction and electrical characteristics but only supplied in single section units with two terminals. These units are ideally suited for use in assemblies where space is limited and multiple units may be mounted close together for compactness.

TYPES YAT AND YAB—Dykanol "G" Impregnated and Filled Units

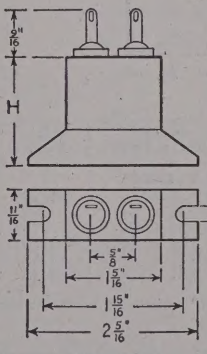
Cat. Nos.	Cap. Mfd.	Size—Inches L. x W. x H.	List Price	Net Price
600 V.D.C. Work.				
YAT or **YAB 6005**	.05	2 7/16 x 9/16 x 1	$2.60	**$1.56**
YAT or **YAB 6010**	.1	2 7/16 x 9/16 x 1	2.65	**1.59**
YAT or **YAB 6025**	.25	2 7/16 x 9/16 x 1 1/2	2.75	**1.65**
YAT or **YAB 6050**	.5	2 7/16 x 9/16 x 1 7/8	2.95	**1.77**
YAT or **YAB 6100**	1.0	2 7/16 x 9/16 x 2 1/2	3.40	**2.04**
YAT or **YAB 60055**	.05–.05	2 7/16 x 9/16 x 1	3.25	**1.95**
YAT or **YAB 6011**	.1–.1	2 7/16 x 9/16 x 1 1/2	3.35	**2.01**
YAT or **YAB 6022**	.25–.25	2 7/16 x 9/16 x 1 7/8	3.40	**2.04**
YAT or **YAB 6055**	.5–.5	2 7/16 x 9/16 x 2 1/2	3.90	**2.34**
YAT or **YAB 60555**	.05–.05–.05	2 7/16 x 9/16 x 1	3.65	**2.19**
YAT or **YAB 60111**	.1–.1–.1	2 7/16 x 9/16 x 1 1/2	3.75	**2.25**
YAT or **YAB 6222**	.25–.25.–25	2 7/16 x 9/16 x 2 1/2	4.25	**2.55**
1000 V.D.C. Work.				
YAT or **YAB 10005**	.05	2 7/16 x 9/16 x 1	2.65	**1.59**
YAT or **YAB 10010**	.1	2 7/16 x 9/16 x 1	2.85	**1.71**
YAT or **YAB 10025**	.25	2 7/16 x 9/16 x 1 7/8	2.90	**1.74**
YAT or **YAB 10050**	.5	2 7/16 x 9/16 x 2 1/2	3.15	**1.89**
YAT or **YAB 100055**	.05–.05	2 7/16 x 9/16 x 1 1/2	3.25	**1.95**
YAT or **YAB 10011**	.1–.1	2 7/16 x 9/16 x 1 1/2	3.50	**2.10**
YAT or **YAB 10022**	.25–.25	2 7/16 x 9/16 x 2 1/2	3.75	**2.25**
YAT or **YAB 100555**	.05–.05.–05	2 7/16 x 9/16 x 1 1/2	4.25	**2.55**
YAT or **YAB 10111**	.1–.1–.1	2 7/16 x 9/16 x 2 1/2	4.50	**2.70**


1¾
1"
9/16"
H
H
1¾"
9/16
HOLES .144
1"
2⅛"
2 7/16"
½"
½"
ON DUAL UNITS THIS TERMINAL IS COMMON ON TRIPLE UNITS CAN IS COMMON

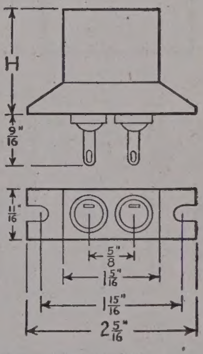
TYPE YAT



TYPE YAB



TYPE WAT

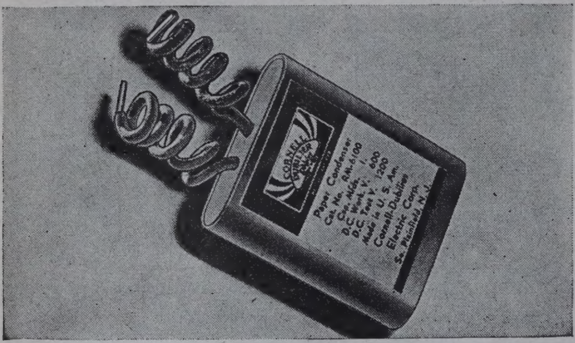


TYPE WAB

TYPES WAT AND WAB—Dykanol "G" Impregnated and Filled Units

Cat. Nos.	Cap. Mfd.	Size—Inches Lgth. x Wid. x Hgth.	List Price	Net Price
600 V.D.C. Work.				
WAT or **WAB 6005**	.05	2 5/16 x 11/16 x 1 7/16	$2.75	**$1.65**
WAT or **WAB 6010**	.1	2 5/16 x 11/16 x 1 7/16	2.90	**1.72**
WAT or **WAB 6025**	.25	2 5/16 x 11/16 x 1 11/16	3.20	**1.98**
WAT or **WAB 6050**	.5	2 5/16 x 11/16 x 2 1/16	3.30	**1.94**
WAT or **WAB 6100**	1.0	2 5/16 x 11/16 x 2 1/2	3 65	**2.19**
1000 V.D.C. Work.				
WAT or **WAB 10005**	.05	2 5/16 x 11/16 x 1 7/16	2.90	**1.74**
WAT or **WAB 10010**	.1	2 5/16 x 11/16 x 1 7/16	3.00	**1.80**
WAT or **WAB 10025**	.25	2 5/16 x 11/16 x 2 1/16	3.10	**1.86**
WAT or **WAB 10050**	.5	2 5/16 x 11/16 x 2 1/2	3.25	**1.95**

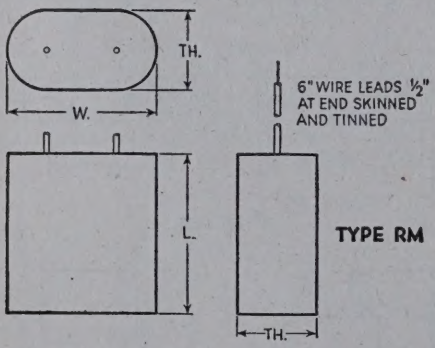
REPLACEMENT PAPER CAPACITORS



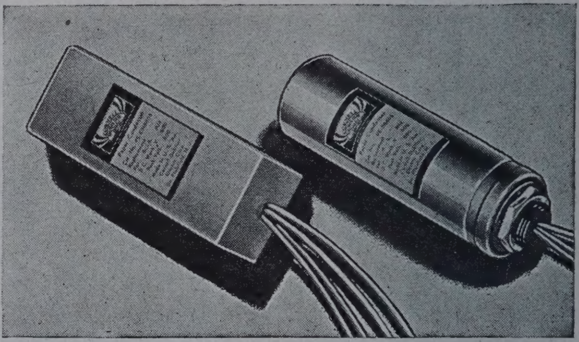
TYPE RM UNCASED PAPER CAPACITORS

Type RM uncased capacitors are made available to repair paper dielectric filter blocks which were used in the early models of A.C. operated radio sets. Also useful in the elimination of electrical interference caused by pushbuttons, bells, buzzers, and similar applications in radio, electronic and electrical devices.

Special capacitor units can be made up and potted into suitable containers by servicemen to fulfill many requirements.

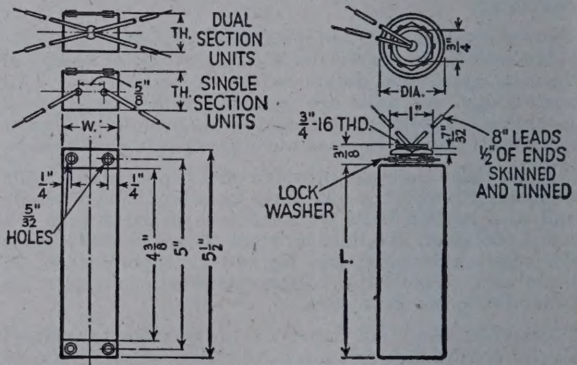


Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		600 V. D.C.		
RM 6010	.1	2 x 1 x 3/16	$0.50	**$0.30**
RM 6025	.25	2 x 1 x 3/8	.60	**.36**
RM 6050	.5	2 x 1 3/8 x 1/2	.75	**.45**
RM 6100	1	2 x 1 7/8 x 3/4	1.10	**.66**
RM 6200	2	3 3/8 x 1 7/8 x 7/8	1.65	**.99**
RM 6400	4	4 1/4 x 1 7/8 x 1 3/8	3.25	**1.95**



TYPE PECH AND PEB REPLACEMENT UNITS

Paper Replacement Capacitors that simulate electrolytics in appearance; these types fulfill many service requirements. Their actual capacity is from ⅓ to ½ of the usual value employed when using electrolytics. They afford a high voltage breakdown which an electrolytic does not offer. There is no polarity to observe when using these capacitors. Mounting flanges are provided on all cardboard box units. Dual section units have separate leads.



TYPE PECH TYPE PEB

TYPE PECH, 1200 V. D. C. Test, 800 V. D. C. Peak, 600 V. D.C. Working

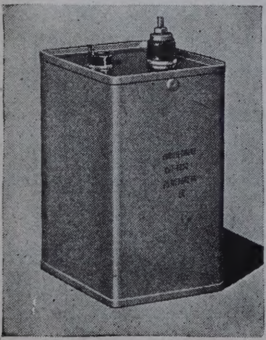
Cat. No.	"Replacement" for Electrolytic Cap. Mfd.	Actual Capacity Approx. Mfd.	Size—Inches Length x Width x Thickness	List Price	Net Price
PECH 6004	4	2	4 3/8 x 1 3/8 x 15/16	$1.45	**$0.87**
PECH 6008	8	5.5	4 3/8 x 1 5/8 x 1 1/8	1.95	**1.17**
PECH 6808	8–8	2.7–2.7	4 3/8 x 2 x 1 1/2	3.20	**1.92**

TYPE PEB, 1200 V. D. C. Test, 800 V. D. C. Peak, 600 V. D.C. Working

PEB 6004	4	1.75	4 3/8 x 1 3/8	$1.65	**$0.99**
PEB 6008	8	2.75	4 3/8 x 1 3/8	2.10	**1.26**
PEB 6808	8–8	1.7–1.7	4 3/8 x 1 1/2	3.40	**2.04**

HIGH SPEED PHOTO-FLASH CAPACITOR

for
High Speed
Stroboscopic
Photography

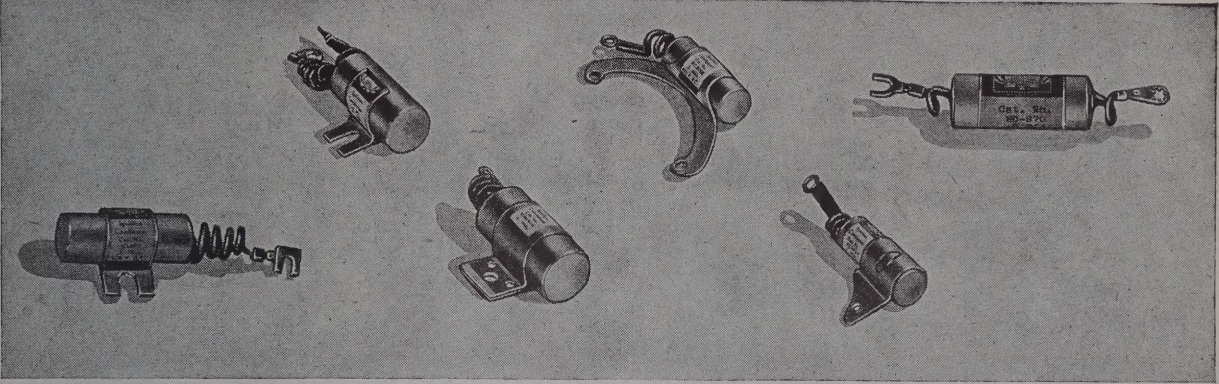


Type KGT 6250-1 Capacitor is rated for operation at 2000 V.D.C. Peak and each unit offers a capacity value of 25 microfarads. Two or more units may be used to provide any desired multiple of this value in the construction of speed flash lamps for making stroboscopic pictures. Unit comes in sealed metal case, 6⅝x4$\frac{9}{16}$x3¾".

Type KGT 6250-1 25 Mfd. 660 V.A.C.-2000 V.D.C. Peak

List Price $32.40 **Net Price $19.45**

AUTO RADIO CAPACITORS



TYPES: (Top Row) IC-2P55, FC-2P5A AND HC-870E; (Bottom Row) IC-2P5V, ICH-2W1A AND FC-2P5V

The mechanical design of C-D Auto Radio Capacitors insures against damage by the high temperatures and excessive vibration existing under the hood of an auto. Special units such as these are designed for certain particular installations. Thus, for instance, Ford generator capacitor, FC-2P5V, has a special mounting bracket while others are also provided with special mountings and terminals. Vibrator capacitors are oil-treated to withstand high peak and surge voltages.

GENERATOR UNITS

Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wth. x Thick.	List Price	Net Price
ICS 2S5A	.05	7/16 x 1 1/4	$0.60	**$0.36**
IC 2P5C	.5	1 7/8 x 1 1/4	.60	**.36**
FC 2P5A	.5	1 7/8 x 1 1/4	.60	**.36**
FC 2P5V	.5	1 7/8 x 1 1/4	.60	**.36**
IC 2P55	.5–.5	7/8 x 2	.90	**.54**
ICH 2W1A	1.0	1 x 2 3/16	.85	**.51**
ICV 2P25A	.25	11/16 x 1 7/8	.60	**.36**
ICV 2P5A	.5	11/16 x 1 7/8	.60	**.36**
ICV 2W1A	1.0	1 x 2 3/16	.85	**.51**

AMMETER UNIT

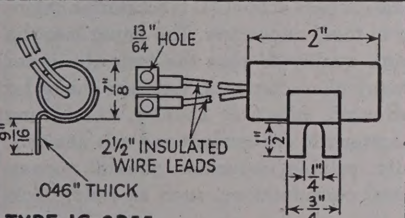
HC 870E	.5	3/4 x 2	$0.55	**$0.33**

VIBRATOR BUFFER UNITS

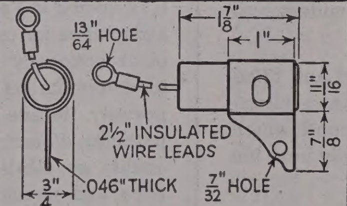
Metal cased oil-impregnated and processed tubular paper capacitors with cardboard insulating sleeve and mounting strap. 2000 V.D.C. Peak.

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Lgth.	List Price	Net Price
TVC 16D5-6	.005	5/8 x 1 5/8	$0.55	**$0.33**
TVC 16D7-6	.007	5/8 x 1 5/8	.60	**.36**
TVC 16S1-6	.01	5/8 x 1 5/8	.70	**.42**
TVC 16S2-6	.02	11/16 x 2 1/8	.75	**.45**

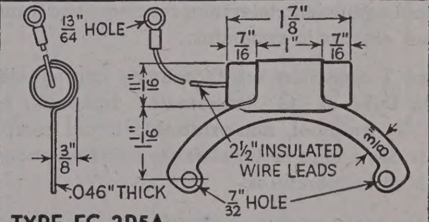
For oil-impregnated and processed paper tubular capacitors, see Type MD and TVC capacitors listed on page 9.


13/64" HOLE
2"
7/8"
9/16"
1/2"
2½" INSULATED WIRE LEADS
.046" THICK
1/4"
3/4"

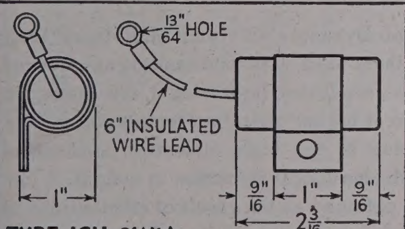
TYPE IC-2P55


13/64" HOLE
1 7/8"
1"
11/16"
7/8"
2½" INSULATED WIRE LEADS
3/4"
.046" THICK
7/32" HOLE

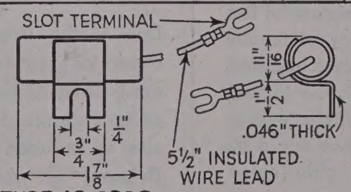
TYPE FC-2P5V


13/64" HOLE
1 7/8"
7/16"
1"
7/16"
11/16"
11/16"
3/8"
.046" THICK
2½" INSULATED WIRE LEADS
7/32" HOLE
3/16

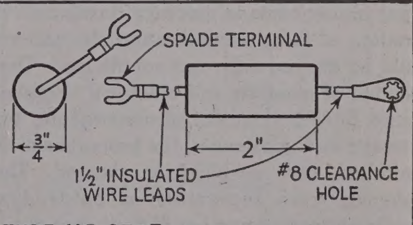
TYPE FC-2P5A


13/64" HOLE
6" INSULATED WIRE LEAD
1"
9/16"
1"
9/16"
2 3/16

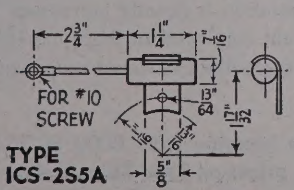
TYPE ICH-2W1A


SLOT TERMINAL
11/16"
1/2"
.046" THICK
1/4"
3/4"
1 7/8"
5½" INSULATED WIRE LEAD

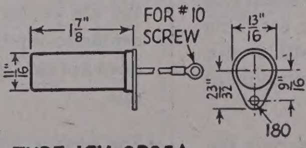
TYPE IC-2P5C
TYPE ICH-2P5C (HOLE INSTEAD OF SLOTS IN MOUNTING CLAMP)


SPADE TERMINAL
3/4"
2"
1½" INSULATED WIRE LEADS
#8 CLEARANCE HOLE

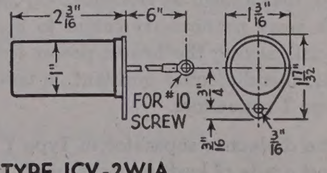
TYPE HC-870E


2 3/4"
1 1/4"
7/16"
FOR #10 SCREW
13/64"
17/32"
1/16
5/16
5/8"

TYPE ICS-2S5A

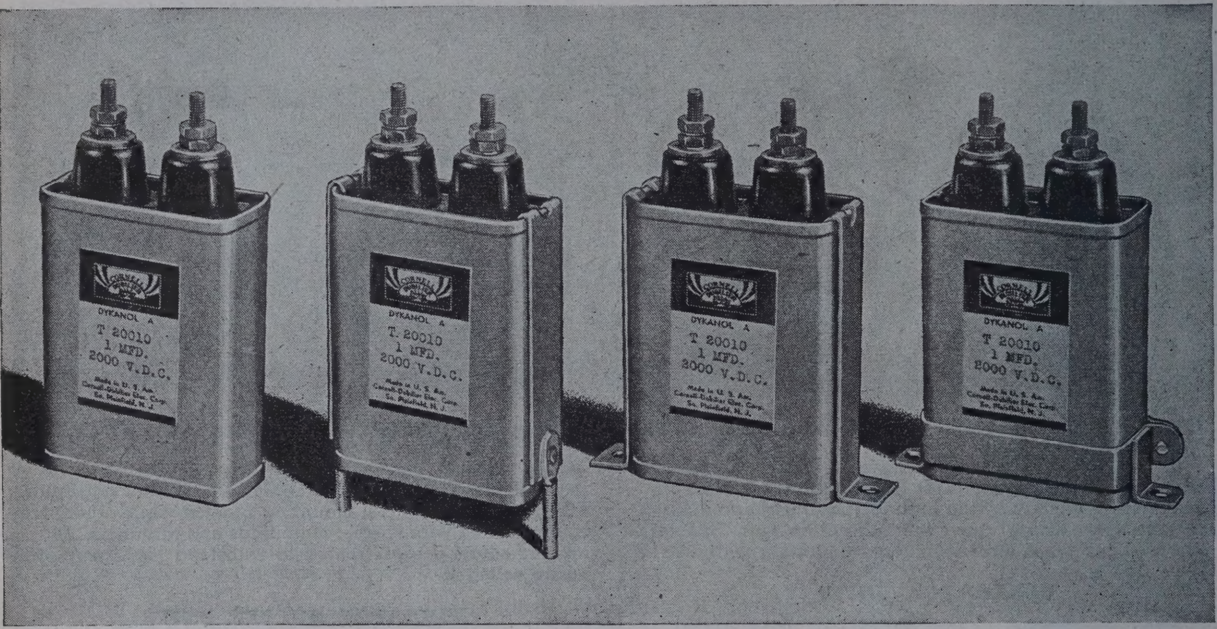

1 7/8"
FOR #10 SCREW
13/16"
11/16
23/32"
9/16"
180

TYPE ICV-2P25A
TYPE ICV-2P5A


2 3/16"
6"
1 3/16"
1"
FOR #10 SCREW
3/4"
17/32"
3/16"
3/16"

TYPE ICV-2W1A

DYKANOL TRANSMITTING CAPACITORS



TYPES T, TJH, TJL AND TJU DYKANOL CAPACITORS

Type T-series Dykanol transmitting capacitors are the finest and most dependable units obtainable for use in all amateur, broadcast and commercial equipment. Units are provided with well insulated terminals, and mountings desired as shown in the accompanying illustrations. These units are standard in thousands of broadcast and government stations all over the world, and also employed in all types of sound equipment, television receivers and transmitters, and other electronic apparatus.

Type T capacitors are thoroughly impregnated and filled with Dykanol "G" (chlorinated diphenyl), a non-inflammable, fireproof, non-oxidizable liquid compound which provides a high factor of safety and exceptionally long life at high temperatures.

In the past, organic oils, resins, and waxes were used as paper impregnants in electrical insulation. Because of the variation of these natural materials, uniformity of results could be desired only and not attained. The concentrated attention of chemists and electrical engineers was turned toward the development of non-organic, synthetic substitutes and new substances, the properties of which could be controlled and modified as desired. The chlorinated diphenyls were recognized as outstanding among the rapidly increasing number of synthetics available. Of these compounds, continued research pointed to one narrow group, that known as Dykanol "G," the characteristics of which were particularly suited to the capacitor art. This material, having the lowest power factor compatible with the highest dielectric constant, is used as the impregnant in Type T capacitors.

For the dielectric separator in Type T capacitors, only the highest grade of kraft paper is used, ranging in thickness from .0003 to .001 of an inch for a single sheet. Three or more layers of paper dielectric as a separator between foil members are always used. The higher voltage units use as many as six or more layers. This multiple lamination builds a high safety factor into Type T capacitors.

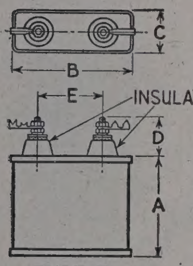
All paper is manufactured to meet rigid specifications and is subjected to a series of tests at the C-D laboratories before acceptance for use in these capacitors. The paper must be of exceptionally high quality to pass the tests. In order to determine its many characteristics, tests are made for porosity, tensile strength, effect of heating, conducting particles, dielectric strength, ash content and ash analysis, acidity or alkalinity, soluble impurities, general appearance, and mechanical considerations such as yield, thickness, width, etc.

Due to the use of Dykanol "G" and multi-layer kraft capacitor tissue in these units, many outstanding advantages are thus gained, i.e., small size, light weight, low dielectric stress and long life at higher operating temperatures. The size is reduced due to the high dielectric constant of Dykanol "G" which also affords reduction in weight. A low dielectric stress is obtained as the result of efficient use of container volume, and the high specific inductive capacity of the impregnant. And since the dielectric stress is low, the life of the unit in operation is greatly increased. The synthetic liquid impregnant employed in these capacitors does not oxidize or deteriorate like commonly used organic oils.

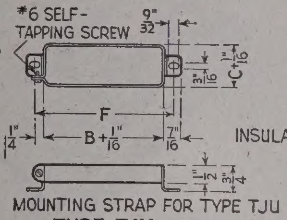
For higher voltage units, ranging from 6000 to 25,000 v.d.c., write for data and prices on Type TK capacitors.

CORNELL DUBILIER

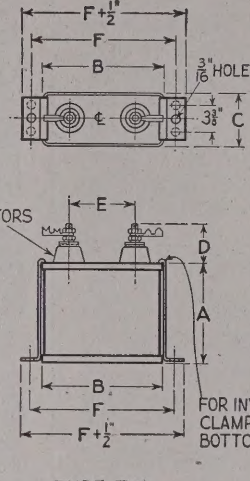
DYKANOL TRANSMITTING CAPACITORS



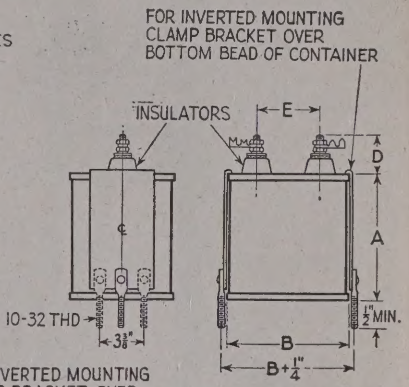
TYPE T
(WITHOUT MOUNTINGS)



TYPE TJU
(WITH MOUNTING STRAP)


F+1/2"
F
B
3/16" HOLES
3/8"
C
E
INSULATORS
D
A
B
F
F+1/2"
FOR INVERTED MOUNTING CLAMP BRACKET OVER BOTTOM BEAD OF CONTAINER

TYPE TJL


FOR INVERTED MOUNTING CLAMP BRACKET OVER BOTTOM BEAD OF CONTAINER
INSULATORS
E
D
A
10-32 THD
3/8"
1/2" MIN.
B
B+1/4"

TYPE TJH

TYPE DESIGNATIONS—Type T (basic units) are without mountings. To order Types TJH, TJL or TJU with mountings as shown above, add letter symbols of type mountings desired to Cat. No. as follows:

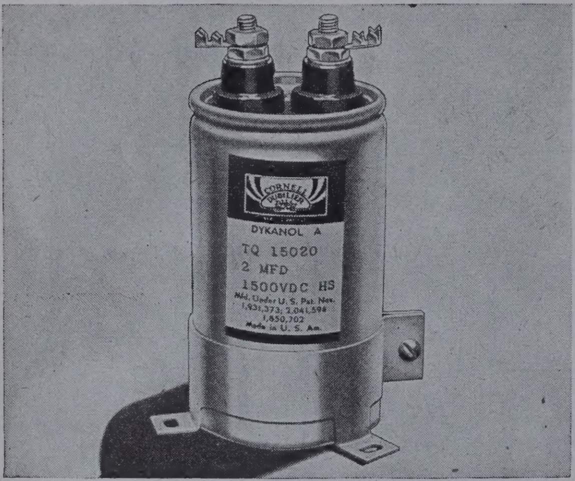
TYPE T—(Basic unit) without mountings.
TYPE TJH—With screw spade-lug brackets.
TYPE TJL—With mounting foot brackets.
TYPE TJU—With universal mounting strap.

Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

Cat. No.	Cap. Mfd.	Dimensions—Inches A	B	C	D	E	F	List Price	Net Price
		600 V.D.C. Working							
T 6005	.5	2⅛	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	$3.30	**$1.98**
T 6010	1	2⅛	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	4.20	**2.52**
T 6020	2	2⅞	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	5.10	**3.06**
T 6030	3	3⅞	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	6.00	**3.60**
T 6040	4	3⅜	2½	1³⁄₁₆	⅞	1⅛	3	6.60	**3.96**
T 6050	5	4¾	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	7.50	**4.50**
T 6060	6	4⅝	2½	1³⁄₁₆	⅞	1⅛	3	8.10	**4.86**
T 6080	8	3¹³⁄₁₆	3¾	1¼	⅞	2	4⅜	9.60	**5.76**
T 6100	10	4⅝	3¾	1¼	⅞	2	4⅜	10.80	**6.48**
		1,000 V.D.C. Working							
T 10001	.1	2	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	3.00	**1.80**
T 100025	.25	2⅛	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	3.30	**1.98**
T 10005	.5	2⅛	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	3.60	**2.16**
T 10010	1	2⅛	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	4.50	**2.70**
T 10020	2	4	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	6.00	**3.60**
T 10030	3	3½	2½	1³⁄₁₆	⅞	1⅛	3	6.90	**4.14**
T 10040	4	4⅝	2½	1³⁄₁₆	⅞	1⅛	3	7.50	**4.50**
T 10050	5	3¹³⁄₁₆	3¾	1¼	⅞	2	4⅜	9.00	**5.40**
T 10060	6	4¾	3¾	1¼	⅞	2	4⅜	10.00	**6.00**
T 10080	8	4¾	3¾	1¼	⅞	2	4⅜	10.80	**6.48**
T 10100	10	4⅝	3¾	1¾	⅞	2	4⅜	12.00	**7.20**
T 10120	12	3¹³⁄₁₆	3¾	2¼	⅞	2	4⅜	13.00	**7.80**
T 10150	15	4¾	3¾	2½	⅞	2	4⅜	14.50	**8.70**
		1,500 V.D.C. Working							
T 15005	.5	2⅞	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	4.50	**2.70**
T 15010	1	4	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	5.40	**3.24**
T 15020	2	4⅛	2½	1³⁄₁₆	⅞	1⅛	3	7.50	**4.50**
T 15030	3	4¾	2½	1³⁄₁₆	⅞	1⅛	3	9.00	**5.40**
T 15040	4	4⅝	3¾	1¼	⅞	2	4⅜	10.00	**6.00**
T 15050	5	4¾	3¾	1¾	⅞	2	4⅜	10.80	**6.48**
T 15060	6	4¾	3¾	1¾	⅞	2	4⅜	12.25	**7.35**
T 15080	8	4¾	3¾	2½	⅞	2	4⅜	15.00	**9.00**
T 15100	10*	4¾	3¾	3³⁄₁₆	⅞	2	4⅜	18.00	**10.80**
T 15120	12*	4¾	3¾	3³⁄₁₆	⅞	2	4⅜	19.50	**11.70**
T 15150	+15*	4¾	3¾	4⁹⁄₁₆	⅞	2	4⅜	21.50	**12.90**
		2,000 V.D.C. Working							
T 20001	.1	2⅛	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	$4.80	**$2.88**
T 200025	.25	2⅛	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	5.10	**3.06**
T 20005	.5	2⅞	1¹³⁄₁₆	1¹⁄₁₆	⅞	¹³⁄₁₆	2¼	5.40	**3.24**
T 20010	1	3⅜	2½	1³⁄₁₆	1¼	1⅛	3	6.60	**3.96**
T 20020	2	4	3¾	1¼	1¼	2	4⅜	7.80	**4.68**
T 20030	3	4¾	3¾	1¼	1¼	2	4⅜	9.60	**5.76**
T 20040	4	3¹³⁄₁₆	3¾	2¼	1¼	2	4⅜	10.80	**6.48**
T 20050	5	4¾	3¾	2¼	1¼	2	4⅜	12.00	**7.20**
T 20060	6*	4¾	3¾	3³⁄₁₆	1¼	2	4⅜	14.50	**8.70**
T 20080	8*	4¾	3¾	3³⁄₁₆	1¼	2	4⅜	18.00	**10.80**
T 20100	+10*	4¾	3¾	4⁹⁄₁₆	1¼	2	4⅜	22.00	**13.20**
T 20120	+12*	5⅜	3¾	4⁹⁄₁₆	1¼	2	4⅜	24.00	**14.40**
		2,500 V.D.C. Working							
T 25005	.5	3½	3¾	1¼	1¼	2	4⅜	8.40	**5.04**
T 25010	1	3¼	3¾	1¾	1¼	2	4⅜	9.60	**5.76**
T 25020	2	4¾	3¾	1¾	1¼	2	4⅜	15.50	**9.30**
T 25040	+ 4*	4	3¾	4⁹⁄₁₆	1¼	2	4⅜	21.50	**12.90**
T 25100A	+10*	6⅜	3¾	4⁹⁄₁₆	1¼	2	4⅜	54.00	**32.40**
		3,000 V.D.C. Working							
T 30001	.1	2	2½	1³⁄₁₆	1¼	1⅛	1	10.00	**6.00**
T 300025	.25	2½	2½	1³⁄₁₆	1¼	1⅛	3	10.80	**6.48**
T 30005	.5	3⅞	2½	1⁹⁄₁₆	1¼	1⅛	3	12.00	**7.20**
T 30010	1	3¹³⁄₁₆	3¾	2¼	1¼	2	4⅜	14.50	**8.70**
T 30020	2*	4⅛	3¾	3³⁄₁₆	1¼	2	4⅜	18.00	**10.80**
T 30040	+ 4*	4¾	3¾	4⁹⁄₁₆	1¼	2	4⅜	26.50	**15.90**
		4,000 V.D.C. Working							
T 40001	.1	2¾	3¾	2¼	2	2	4⅜	18.00	**10.80**
T 400025	.25	2¾	3¾	2¼	2	2	4⅜	19.00	**11.40**
T 40005	.5	4	3¾	2¼	2	2	4⅜	21.50	**12.90**
T 40010	1	5	3¾	2¼	2		4⅜	26.50	**15.90**
T 40020	+ 2*	5	3¾	4⁹⁄₁₆	2	2	4⅜	33.50	**20.10**
T 40040B	+ 4*	8	3¾	4⁹⁄₁₆	2	1¾	4⅜	48.00	**28.80**
		5,000 V.D.C. Working							
T 50005	.5	4¼	3¾	2¼	2	2	4⅜	24.00	**14.40**
T 50010	+ 1*	4¼	3¾	4⁹⁄₁₆	2	2	4⅜	30.00	**18.00**
T 50020	+ 2*	6	3¾	4⁹⁄₁₆	2	2	4⅜	38.50	**23.10**
		6,000 V.D.C. Working							
T 60010A	+ 1*	8	3¾	4⁹⁄₁₆	2	1¾	4⅜	60.00	**36.00**

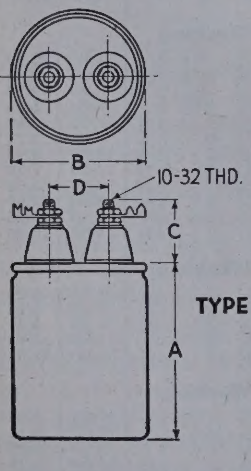
NOTES—* Type TJU units are not furnished in these larger sizes.
+ TYPES TJL and TJH units furnished with two mounting holes or spade-lugs 3⅜" apart. All other units furnished with a single mounting hole or spade-lug centered on each bracket.

DYKANOL TRANSMITTING CAPACITORS

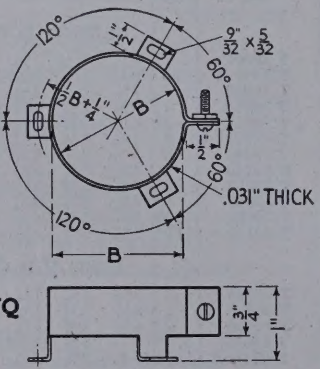

CORNELL DUBILIER
DYKANOL A
TQ 15020
2 MFD
1500VDC HS
Mfd. Under U. S. Pat. Nos.
1,931,373; 2,041,594
1,850,702
Made in U. S. A.

TYPE TQ DYKANOL CAPACITORS

Cornell-Dubilier, Type TQ Dykanol Capacitors, in cylindrical aluminum containers are provided with two insulated terminals and universal mounting rings for mounting the unit in any position with terminals either above or below a subpanel assembly. These units are designed primarily for filter circuits in amateur, low-power broadcast and commercial transmitters. They are also adapted for high-power, high-fidelity public address systems and portable power amplifiers.

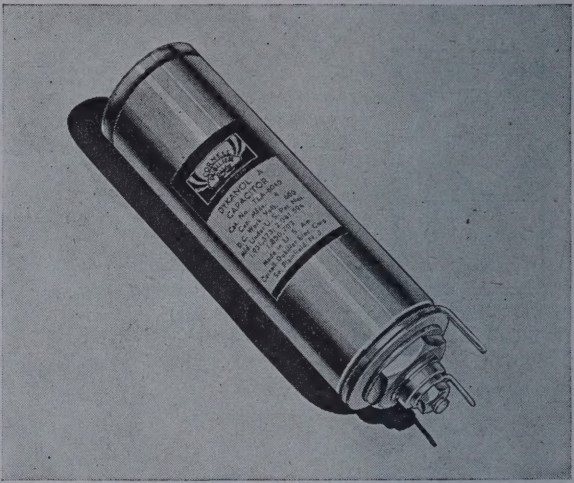

B
D
10-32 THD.
C
A

TYPE TQ


120°
1/2"
9/32" x 5/32
60°
1/2B+1/4"
B
1/2"
60°
.031" THICK
120°
B
3/4"
1"

MOUNTING RING
FOR TQ CAPACITORS

Cat. No.	Cap. Mfd.	Dimensions—Inches A	B	C	D	List Price	Net Price
		600 Volts D.C. Working					
TQ 6020	2	2⅛	2	1	13/16	$4.00	**$2.40**
TQ 6040	4	2¾	2	1	13/16	5.40	**3.24**
		1000 Volts D.C. Working					
TQ 10010	1	1⅞	2	1	13/16	3.30	**1.98**
TQ 10020	2	2½	2	1	13/16	4.50	**2.70**
TQ 10040	4	3⅞	2	1	13/16	5.70	**3.42**
		1500 Volts D.C. Working					
TQ 15010	1	2⅜	2	1	13/16	4.20	**2.52**
TQ 15020	2	3⅝	2	1	13/16	5.70	**3.42**
		2000 Volts D.C. Working					
TQ 20010	1	3⅛	2	1	13/16	5.40	**3.24**
TQ 20020	2	4⅞	2	1	13/16	6.00	**3.60**
TQ 20040	4	4⅜	3	1¼	1¼	8.40	**5.04**
		3000 Volts D.C. Working					
TQ 30010	1	3¼	3	1¼	1¼	10.80	**6.48**
TQ 30020	2	5¼	3	1¼	1¼	13.00	**7.80**

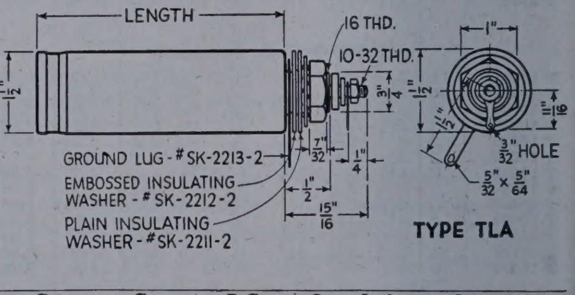

CORNELL DUBILIER
DYKANOL A
CAPACITOR
TLA 6040

TYPE TLA DYKANOL CAPACITORS

For compact high-voltage filter applications in high-fidelity P.A. amplifiers, power supplies for short-wave portable transmitters and transceivers, type TLA Dykanol filter units in cylindrical aluminum containers are ideal in every respect. One terminal is well insulated, the other being the metal can itself. Insulating washers, as well as a large spade lug, are provided so that the metal container may be insulated from the chassis.

Type TLA capacitors are thoroughly impregnated and filled with Dykanol "G" (chlorinated diphenyl), a non-inflammable, fireproof, non-oxidizable liquid compound which provides a high factor of safety and exceptionally long life at high temperatures.

Type TLAD Capacitors are similar in construction except that the capacitor section is insulated from the metal container and furnished with two soldering lug terminals instead of one.


LENGTH
1 1/2"
16 THD.
10-32 THD.
3/4"
1 1/2"
GROUND LUG - # SK-2213-2
EMBOSSED INSULATING WASHER - # SK-2212-2
PLAIN INSULATING WASHER - # SK-2211-2
7/32"
1/4"
1/2"
15/16"
1"
1 1/4"
11/16"
3/32" HOLE
5/32" x 5/64"

TYPE TLA

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Lth. x Diam.	List Price	Net Price
TLA 6020	2	600	2⅞ x 1½	$3.30	**$1.98**
TLA 6040	4	600	4½ x 1½	4.50	**2.70**
TLA 10010	1	1000	2⅞ x 1½	3.00	**1.80**
TLA 10020	2	1000	4½ x 1½	4.00	**2.40**
TLA 15005	.5	1500	2⅞ x 1½	3.60	**2.16**
TLA 15010	1	1500	4½ x 1½	4.00	**2.40**

TYPE TLAD—Units Insulated from Container

TLAD 6020	2	600	2⅞ x 1½	$4.10	**$2.46**
TLAD 6040	4	600	4½ x 1½	5.25	**3.15**
TLAD 10010	1	1000	2⅞ x 1½	3.75	**2.25**
TLAD 10020	2	1000	4½ x 1½	4.75	**2.85**
TLAD 15005	.5	1500	2⅞ x 1½	4.35	**2.61**
TLAD 15010	1	1500	4½ x 1½	4.75	**2.85**

CORNELL DUBILIER

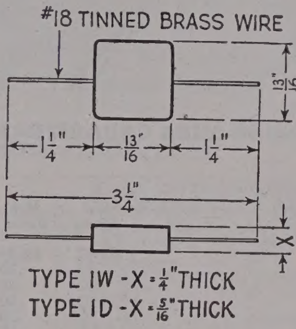
MOULDED MICA RECEIVING CAPACITORS

CORNELL-DUBILIER
CORNELL-DUBILIER
CORNELL-DUBILIER
CORNELL-DUBILIER
CORNELL DUBILIER

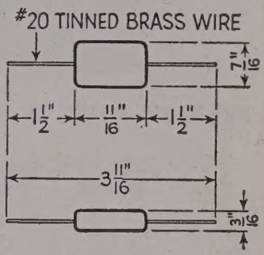
TYPES 1W, 1D & 5W MICA CAPACITORS

Cap. Mfd.	1000 V.D.C. Test—500 V.D.C. Work.			List Price	Net Price
	Type 5W Cat. No.	Type 1W Cat. No.	Type 1D Cat. No.		
.000005	**5W 5V5**			$0.25	**$0.15**
.00001	**5W 5Q1**			.25	**.15**
.00002	**5W 5Q2**			.25	**.15**
.000025	**5W 5Q25**			.25	**.15**
.00003	**5W 5Q3**			.25	**.15**
.00004	**5W 5Q4**			.20	**.12**
.00005	**5W 5Q5**			.20	**.12**
.00007	**5W 5Q7**			.20	**.12**
.0001	**5W 5T1**			.20	**.12**
.00015	**5W 5T15**			.20	**.12**
.0002	**5W 5T2**			.20	**.12**
.00025	**5W 5T25**			.25	**.15**
.0003	**5W 5T3**			.25	**.15**
.0004	**5W 5T4**			.25	**.15**
.0005	**5W 5T5**			.25	**.15**
.0006		**1W 5T6**		.25	**.15**
.0007		**1W 5T7**		.25	**.15**
.0008		**1W 5T8**		.25	**.15**
.0009		**1W 5T9**		.25	**.15**
.001		**1W 5D1**		.30	**.18**
.0015		**1W 5D15**		.30	**.18**
.002		**1W 5D2**		.40	**.24**
.0025		**1W 5D25**		.45	**.27**
.003		**1W 5D3**		.50	**.30**
.004			**1D 5D4**	.55	**.33**
.005			**1D 5D5**	.60	**.36**
.006			**1D 5D6**	.75	**.45**
			600 V.D.C. Test 300 V.D.C. Working		
.007			**1D 3D7**	.80	**.48**
.008			**1D 3D8**	.80	**.48**
009			**1D 3D9**	.85	**.51**
01			**1D 3S1**	.90	**.54**

Moulded Bakelite Capacitors, Types 1W, 1D, and 5W are suitable for numerous electronic uses and are specially adapted to serve many important functions in low-voltage radio circuits. Standard units are furnished in brown bakelite and also available in low-loss yellow bakelite on special order. They are individually tested for accuracy of capacity and voltage breakdown and designed to give dependable service where small size units are required.


#18 TINNED BRASS WIRE
13/16"
1 1/4"
13/16"
1 1/4"
3 1/4"
X
TYPE 1W - X = 1/4" THICK
TYPE 1D - X = 5/16" THICK

TYPE 1W & 1D


#20 TINNED BRASS WIRE
7/16"
1 1/2"
11/16"
1 1/2"
3 11/16"
3/16"

TYPE 5W

Notes on Ordering Special Capacitors

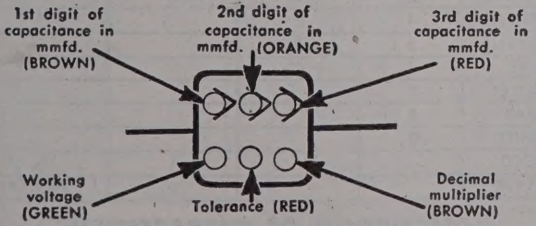
The listing at the left gives the range of capacities available from stock. Intermediate capacities, not exceeding the maximum as listed for each type, can also be furnished upon request.

STANDARD CAPACITY TOLERANCE is plus or minus 20%. Also available, on order, in plus or minus 10%, 5%, 3% and 2% tolerance ratings (or within 1 mmfd.—whichever is greater). For capacity tolerance of: 10% add 10% to list prices; 5% add 20% to list prices; 3% add 40% to list prices; 2% add 75% to list prices.

"L" MOULDED IN LOW-LOSS BAKELITE available on order—add "L" to Cat. No. (examples: 5WL; 1DL; 1WL). For types 1WL, 1DL and 5WL add 10c to list prices.

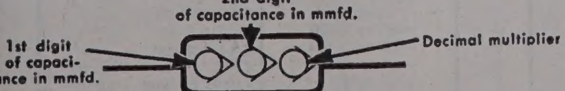
RMA Standard Color Code

Six Dot RMA Color Code


1st digit of capacitance in mmfd. (BROWN)
2nd digit of capacitance in mmfd. (ORANGE)
3rd digit of capacitance in mmfd. (RED)
Working voltage (GREEN)
Tolerance (RED)
Decimal multiplier (BROWN)

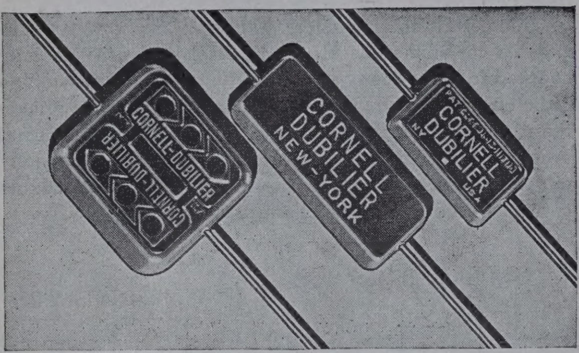
Example Shown Above – 1320 mmfd. ±2%, 500 V.W.

Three Dot RMA Color Code

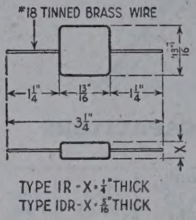

2nd digit of capacitance in mmfd.
1st digit of capacitance in mmfd.
Decimal multiplier

COLOR	DIGIT NUMERAL	DECIMAL MULTIPLIER	TOLERANCE	VOLTS WORKING
BLACK	0	1	20%	–
BROWN	1	10	1 %	100
RED	2	100	2 %	200
ORANGE	3	1000	3 %	300
YELLOW	4	10000	4 %	400
GREEN	5	–	5%	500
BLUE	6	–	6%	600
VIOLET	7	–	7 %	700
GRAY	8	–	8%	800
WHITE	9	–	9 %	900
GOLD	–	.1	–	1000
SILVER	–	.01	10%	

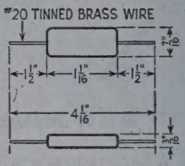
HIGH-STABILITY SILVERED MICA CAPACITORS


CORNELL-DUBILIER
CORNELL DUBILIER NEW-YORK
PAT. OFF. CORNELL DUBILIER N.Y. U.S.A.

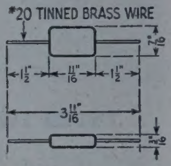
Types 1R, 1DR, 2R and 5R "Silver-Mike" Silvered Mica Capacitors are designed for use in high Q electronic circuits where frequency stability and minimum loss must be maintained. They are ideally suited for use in circuits where the LC product must be maintained constant, and particularly adapted for use in tuning IF transformers, push-button tuning circuits and other similar applications. Standard units are moulded in low-loss red bakelite and furnished with tinned brass wire leads. All units are rated at 500 volts D.C. working and tested at 1000 volts D.C.


#18 TINNED BRASS WIRE
$1\frac{13}{16}$"
$1\frac{1}{4}$"
$\frac{13}{16}$"
$1\frac{1}{4}$"
$3\frac{1}{4}$"
X
TYPE 1R - X = $\frac{1}{4}$" THICK
TYPE 1DR - X = $\frac{5}{16}$" THICK

TYPE 1R & 1DR


#20 TINNED BRASS WIRE
$\frac{7}{16}$"
$1\frac{1}{2}$"
$1\frac{1}{16}$"
$1\frac{1}{2}$"
$4\frac{1}{16}$"
$\frac{3}{16}$"

TYPE 2R


#20 TINNED BRASS WIRE
$\frac{7}{16}$"
$1\frac{1}{2}$"
$\frac{11}{16}$"
$1\frac{1}{2}$"
$3\frac{11}{16}$"
$\frac{3}{16}$"

TYPE 5R

TYPES 1R & 1DR, 2R, AND 5R MICA CAPACITORS

Cap. Mfd.	1000 V.D.C. Test—500 V.D.C. Work.			List Price	Net Price
	Type 5R Cat. No.	Type 2R Cat. No.	Type 1R & 1DR Cat. No.		
.000005	**5R 5V5**			$0.60	**$0.36**
.00001	**5R 5Q1**			.50	**.30**
.00002	**5R 5Q2**			.50	**.30**
.000025	**5R 5Q25**			.50	**.30**
.00003	**5R 5Q3**			.50	**.30**
.00004	**5R 5Q4**			.50	**.30**
.00005	**5R 5Q5**			.50	**.30**
.00007	**5R 5Q7**			.50	**.30**
.0001	**5R 5T1**	**2R 5T1**		.50	**.30**
.00015	**5R 5T15**	**2R 5T15**		.60	**.36**
.0002	**5R 5T2**	**2R 5T2**		.60	**.36**
.00025	**5R 5T25**	**2R 5T25**		.60	**.36**
.0003	**5R 5T3**	**2R 5T3**		.90	**.54**
.0004	**5R 5T4**	**2R 5T4**		.90	**.54**
.0005	**5R 5T5**	**2R 5T5**		.90	**.54**
.0007		**2R 5T7**		1.20	**.72**
.0008		**2R 5T8**		1.35	**.81**
.0009		**2R 5T9**		1.35	**.81**
.001		**2R 5D1**	**1R 5D1**	1.50	**.90**
.0015			**1R 5D15**	1.80	**1.08**
.002			**1R 5D2**	1.80	**1.08**
.0025			**1R 5D25**	2.40	**1.44**
.003			**1R 5D3**	2.70	**1.62**
.004			**1DR 5D4**	2.85	**1.71**
.005			**1DR 5D5**	3.00	**1.80**

Notes on Ordering Special Capacitors

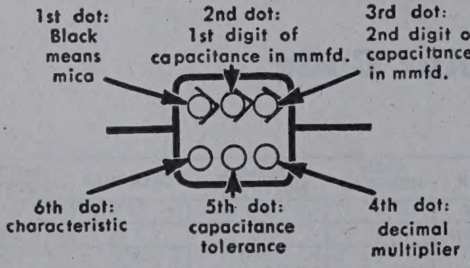
The listing at the left gives range of capacities which are available from stock. Intermediate capacities, not exceeding the maximum as listed for each type, can also be furnished upon request.

STANDARD CAPACITY TOLERANCE is 5%. Also available, on special order, in tolerance ratings of plus or minus 3%, 2% and 1% (or within 1 mmfd.—whichever is greater). All types can also be supplied in plus or minus 10% and 20% tolerances at lower prices.

TEST VOLTAGE—All Types 1R, 1DR, 2R and 5R are tested at 1000 volts D.C.—500 volts D.C. working. Higher capacities in the latter are tested at 600 volts D.C.—300 volts D.C. working.

Joint Army-Navy Standard Color Code

Specification Jan-C-5 "Capacitors, Mica Dielectric, Fixed"


1st dot: Black means mica
2nd dot: 1st digit of capacitance in mmfd.
3rd dot: 2nd digit of capacitance in mmfd.
6th dot: characteristic
5th dot: capacitance tolerance
4th dot: decimal multiplier

1st dot: black · 2nd dot: green · 3rd dot: brown · 4th dot: brown · 5th dot: gold · 6th dot: red = 510 mmfd. ± 5% Characteristic "C"

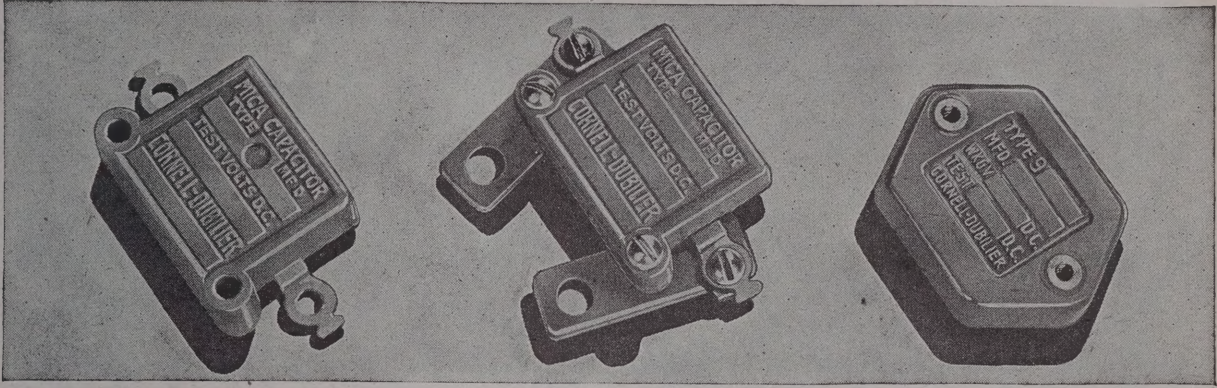
JAN TYPE	C-D TYPE
CM 20	5
CM 25	2
CM 30	1
CM 35	1D
CM 40	3D

COLOR	DIGIT NUMERAL	✻CHARACTERISTIC	DECIMAL MULTIPLIER	TOLERANCE
BLACK	0	A	1	20% (M)
BROWN	1	B	10	
RED	2	C	100	2% (G)
ORANGE	3	D	1000	
YELLOW	4	E		
GREEN	5	F		
BLUE	6	G		
VIOLET	7			
GRAY	8			
WHITE	9			
GOLD			.1	5% (J)
SILVER			.01	10% (K)

✻DESCRIPTION OF CHARACTERISTIC

characteristic	temperature coefficient parts/million degrees C	capacitance drift
A	not specified	not specified
B	not specified	not specified
C	—200 to +200	±0.5 percent
D	—100 to +100	±0.3 percent
E	—20 to +100	±(0.1 percent +0.1 mmf.)
F	0 to +70	±(0.05 percent +0.1 mmf.)
G	0 to —50	±(0.05 percent +0.1 mmf.)

MOULDED MICA TRANSMITTING CAPACITORS



TYPES 4, 4E AND 9 MICA CAPACITORS

C-D Mica Capacitors Types 4 and 9 are designed to meet the requirements of power amplifiers and low-power transmitters. They are principally employed for grid and plate blocking purposes and for r. f. by-pass functions.

TYPE 4

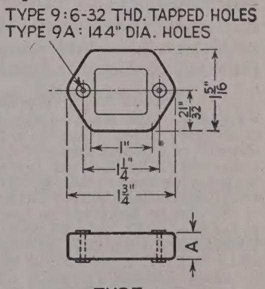
Cat. No.	Cap. Mfd.	List Price	Net Price
1000 V. D. C. Test— 600 V. D. C. Working			
4-14050	.00005	$0.60	**$0.36**
4-13010	.0001	.60	**.36**
4-13020	.0002	.60	**.36**
4-13025	.00025	.60	**.36**
4-13030	.0003	.60	**.36**
4-13040	.0004	.60	**.36**
4-13050	.0005	.60	**.36**
4-12010	.001	.65	**.39**
4-12015	.0015	.65	**.39**
4-12020	.002	.70	**.42**
4-12025	.0025	.80	**.48**
4-12030	.003	.85	**.51**
4-12040	.004	.85	**.51**
4-12050	.005	.85	**.51**
4-12060	.006	1.05	**.63**
4-12070	.007	1.15	**.69**
4-12080	.008	1.20	**.72**
4-11010	.01	1.40	**.84**
4-11015	.015	1.65	**.99**
4-11020	.02	1.90	**1.14**
4-11025	.025	2.30	**1.38**
4-11030	.03	2.55	**1.53**
2500 V. D. C. Test— 1200 V. D. C. Working			
4-24050	.00005	$0.85	**$0.51**
4-23010	.0001	.85	**.51**
4-23020	.0002	.85	**.51**
4-23025	.00025	.85	**.51**
4-23030	.0003	.85	**.51**
4-23050	.0005	.85	**.51**
4-22010	.001	1.10	**.66**
4-22015	.0015	1.40	**.84**
4-22020	.002	1.65	**.99**
4-22025	.0025	1.75	**1.05**
4-22030	.003	1.90	**1.14**
4-22040	.004	1.90	**1.14**
4-22050	.005	2.10	**1.26**
4-22060	.006	2.10	**1.26**
4-22080	.008	2.70	**1.62**
4-21010	.01	3.40	**2.04**
5000 V. D. C. Test— 2500 V. D. C. Working			
4-54050	.00005	$1.10	**$0.66**
4-53010	.0001	1.10	**.66**
4-53020	.0002	1.30	**.78**
4-53025	.00025	1.30	**.78**
4-53030	.0003	1.35	**.81**
4-53050	.0005	1.55	**.93**
4-52010	.001	1.80	**1.08**
4-52015	.0015	2.35	**1.41**
4-52020	.002	2.70	**1.62**
4-52025	.0025	3.00	**1.80**
4-52030	.003	3.30	**1.98**
4-52040	.004	3.80	**2.28**
4-52050	.005	4.10	**2.46**

TYPE 9

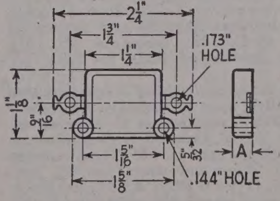
Cat. No.	Cap. Mfd.	List Price	Net Price
1000 V. D. C. Test— 600 V. D. C. Working			
9-14050	.00005	$0.75	**$0.45**
9-13010	.0001	.75	**.45**
9-13025	.00025	.75	**.45**
9-13050	.0005	.75	**.45**
9-12010	.001	.75	**.45**
9-12020	.002	.80	**.48**
9-12025	.0025	.90	**.54**
9-12030	.003	1.05	**.63**
9-12040	.004	1.05	**.63**
9-12050	.005	1.05	**.63**
9-12060	.006	1.20	**.72**
9-12080	.008	1.45	**.87**
9-11010	.01	1.70	**1.02**
9-11015	.015	1.95	**1.17**
9-11020	.02	2.25	**1.35**
9-11025	.025	2.80	**1.68**
9-11030	.03	3.00	**1.80**
9-11040	.04	3.90	**2.34**
9-11050	.05	4.65	**2.79**
9-11060	.06	5.40	**3.24**
2500 V. D. C. Test— 1200 V. D. C. Working			
9-24050	.00005	$0.85	**$0.51**
9-23010	.0001	.85	**.51**
9-23025	.00025	.85	**.51**
9-23050	.0005	.85	**.51**
9-22010	.001	1.10	**.66**
9-22020	.002	1.65	**.99**
9-22025	.0025	1.75	**1.05**
9-22030	.003	1.90	**1.14**
9-22040	.004	1.90	**1.14**
9-22050	.005	2.10	**1.26**
9-22060	.006	2.10	**1.26**
9-22080	.008	2.70	**1.62**
9-21010	.01	3.40	**2.04**
9-21015	015	4.05	**2.43**
9-21020	.02	4.75	**2.85**
9-21025	025	5.30	**3.18**
9-21030	.03	5.55	**3.33**
5000 V. D. C. Test— 2500 V. D. C. Working			
9-54050	.00005	$1.10	**$0.66**
9-53010	.0001	1.10	**.66**
9-53025	00025	1.30	**.78**
9-53050	0005	1.50	**.90**
9-52010	.001	1.80	**1.08**
9-52020	.002	2.70	**1.62**
9-52025	0025	3.00	**1.80**
9-52030	.003	3.30	**1.98**
9-52040	.004	3.80	**2.28**
9-52050	.005	4.10	**2.46**
9-52060	.006	4.20	**2.52**
9-52080	.008	4.60	**2.76**
9-51010	.01	4.95	**2.97**
9-51015	.015	5.40	**3.24**

Notes on Ordering Special Capacitors

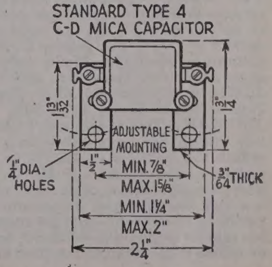
Type No. Suffix	
	STANDARD TOLERANCE is plus or minus 10%. Also available on order in plus or minus 5% and 2%. For capacity tolerance of: 5% add 15c to list prices; 2% add 40c to list prices.
"L"	MOULDED IN LOW-LOSS BAKELITE available on order. Add "L" to Cat. No. (example: 4L-22060; 9L-11010). Add 25c to list prices.
"S"	SPECIAL SALT WATER IMMERSION SEAL AGAINST HUMIDITY. To order, add "S" to Cat. No. (example: 4S-53010; 9S-12050). Add 10c to list prices.
"T"	HEAT AGEING TREATMENT for stabilizing capacity over extremely wide temperature changes, minus 40° C. to plus 70° C., furnished on special order. Add "T" to Cat. No. (example: 4T-12010; 9T-21020). Add 15c to list prices.
"LST"	TO ORDER A COMBINATION OF ABOVE FEATURES, add letters specified to Cat. No. (example: 4LST-12040; 9LST-13020). Add 50c to list prices.
	INSULATION RESISTANCE—Brown Bakelite, 20,000 megohms per unit—Low-Loss Bakelite. 40,000 megohms per unit. Low-Loss Bakelite provides higher Q and lowers the power factor.
"4E"	SMALL METER BRACKETS adapted for Weston Model 301 meters, add "E" to Cat. No. (example: 4E-22050). Add 20c to list prices.
"9A"	UNTAPPED MOUNTING HOLES. Standard units are tapped for 6-32 and furnished with round head screws. For untapped mounting hole, .144" diameter (No. 6 clearance), add "A" to Cat. No. (example: 9A-11030).
"9F"	HIGHER VOLTAGE CONSTRUCTION, rated 6,000 v.d.c. test, 3,000 v.d.c.—1500 v.a.c. operating. Capacity range limited. Moulded in low-loss Bakelite, BM 262. The thickness of these units, or "A" dimension, is 7/16" for capacities up to .002 mfd. and 3/4" for capacities from .0022 to .005 mfd. max. To order, add "F" to Cat. No. (example: 9F-63050, the numeral "6" designating 6,000 volts test). Prices of "9F" units are double the list prices shown.
"9R"	HIGH STABILITY UNITS—Special high stability units, comprising low-loss Bakelite, BM 262, temperature aged and sealed construction for use as low power master oscillator tank capacitors or accessory positions. These units are fixed and permanent in characteristics, having a capacity-temperature coefficient of approximately plus .003% (30 parts per million) per degree C. To order, add "R" to Cat. No. (example: 9R-52020). Prices of 9R units are double the list prices shown.



TYPE 9

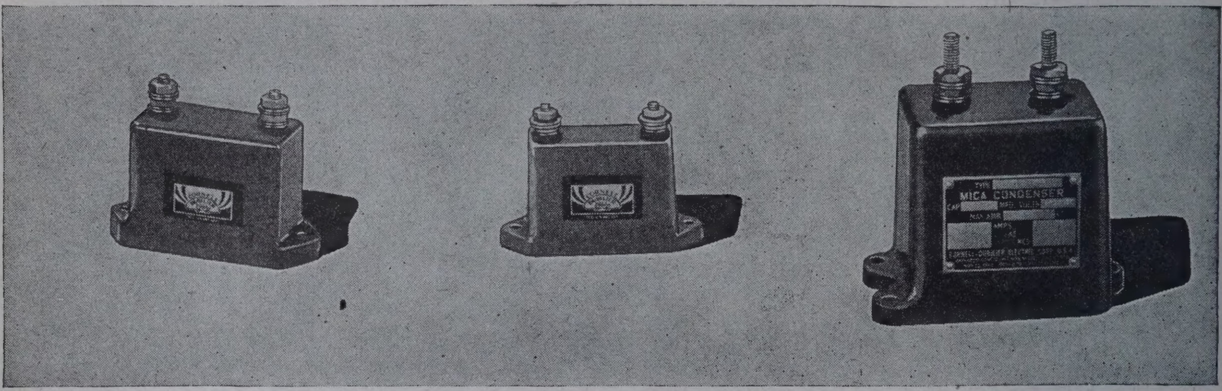


TYPE 4

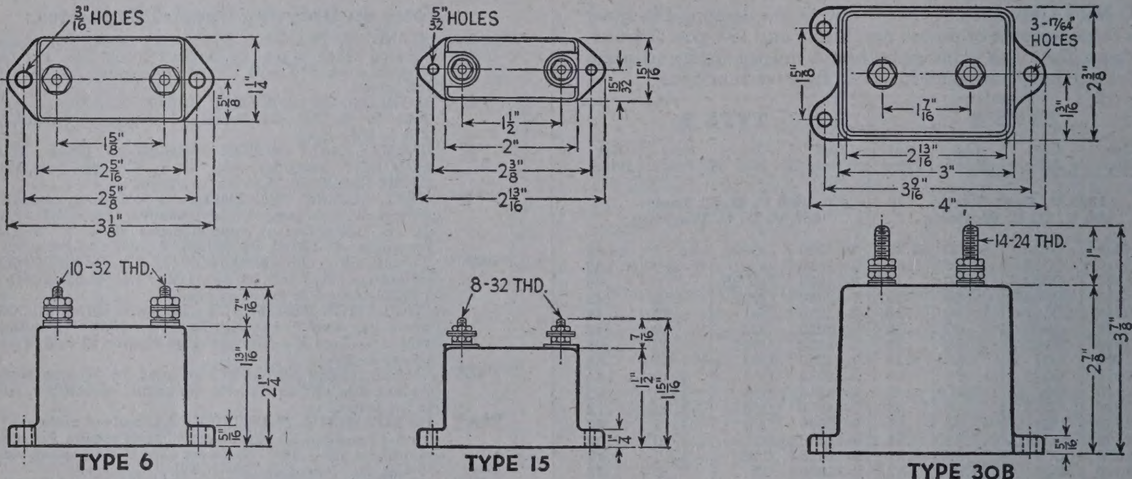


TYPE 4E

BAKELITE CASED MICA TRANSMITTING CAPACITORS



TYPES 6, 15L AND 30B BAKELITE CASED MICA CAPACITORS



TYPE 6

TYPE 15

TYPE 30B

Types 6, 15L and 30B Mica Capacitors in moulded bakelite cases are designed for a wide variety of radio frequency applications where size and weight are at a premium, such as in aircraft, portable equipment, low-power transmitters and the earlier stages of high-power transmitters. They are specially suited for use as grid, plate, coupling, tank and by-pass functions. These units are among the smallest types employing the patented series-stack construction permitting their use on higher r.f. voltages.

Notes on Ordering Special Capacitors

Type 15L units are available only in low-loss Bakelite (BM-262 or equivalent) cases. Types 6 and 30B may be had in either standard (brown) or low-loss (yellow) Bakelite cases. When ordering low-loss units, add "L" to Cat. No. (example: 217-6L; 604-30BL). Add $1.00 to list price for Type 6. Add $1.50 to list price for Type 30B.
STANDARD CAPACITY TOLERANCES—Plus or minus 5%. Tolerance of 2% can be furnished on special order. Add $1.50 to list price for Types 6 and 15L. Add $2.00 to list price for Type 30B.
OPERATING AMBIENT TEMPERATURE—Up to 60° C. maximum.
SALT WATER IMMERSION SEAL—To order, add "S" to Cat. No. (example: 246-6S; 726-15LS; 113-30BS). Add to list: $.30 for Types 6 and 15L. Add to list: $.50 for Type 30B.
"H" TYPE—These units have been developed for use where excellent retrace and low temperature coefficient are required. Over a range of − 40° C. to + 70° C. the capacity temperature coefficient is approximately + .003% per degree C. A limited range of capacity and voltage ratings is available. Made only in low-loss Bakelite and sealed for immersion test. To order, add "H" to Cat. No. (example: 6H, 15H, 30BH). Add to list: $4.00 for Type 6. Add to list: $2.00 for Type 15L. Add to list: $5.00 for Type 30B.
TYPE 6K—This unit is a still further refinement being a compensated unit which can be made with a positive, zero or negative coefficient within the limits of + .003% to − .005% per degree C. over a temperature range of from − 40° C. to + 70° C. Type 6K is available in a limited range of low capacities and voltage ratings. "K" Type includes low-loss Bakelite and immersion seal. When ordering Type 6K, temperature coefficient must be specified. (Type 6 only) Add to list Price: for plus or minus 5%—$12.00; for plus or minus 3%—$13.00; for plus or minus 2%—$14.00; for plus or minus 1%—$18.00.

TYPE 6 BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps.				List Price	Net Price
			3000 kc.	1000 kc.	300 kc.	100 kc.		
390-6	.00005	5,000	1.5	.8	.2	.07	$14.40	**$10.08**
362-6	.0000625	5,000	1.8	.8	.2	.07	14.40	**10.08**
321.6	.0001	5,000	2	1	.3	.1	14.40	**10.08**
395-6	.00015	5,000	3	1.5	.5	.16	14.40	**10.08**
307-6	.0002	5,000	3.5	1.7	.7	.18	14.40	**10.08**
364-6	.00025	5,000	5	2.5	1	.3	14.40	**10.08**
294A-6	.0003	5,000	3.5	2	.8	.4	14.40	**10.08**
283-6	.0004	5,000	4	2.5	1	.5	14.40	**10.08**
272-6	.0005	5,000	4	2	1.4	.8	14.40	**10.08**
266-6	.0006	5,000	5	3	1.6	.8	14.40	**10.08**
654-6	.00075	5,000	5	3.5	2	1	14.40	**10.08**
599-6	.0008	5,000	6	4	2	1	14.40	**10.08**
246-6	.001	5,000	7	4	2	1	14.40	**10.08**
234-6	.0015	5,000	9	5	3	1.5	14.40	**10.08**
215-6	.002	3,000	6	3	1.5	.8	11.50	**8.05**
217-6	.002	6,000	9	6	4	2	14.40	**10.08**
473-6	.0025	5,000	9	6	4	2	14.40	**10.08**
197-6	.003	3,000	8	6	4	2	14.40	**10.08**
184-6	.004	3,000	8	6	5	2	14.40	**10.08**
173-6	.005	2,000	8	5	3	1.5	14.40	**10.08**
474-6	.005	3,000	9	6.5	4	2	14.40	**10.08**
565-6	.0075	2,000	10	8	5	3	14.40	**10.08**
476-6	.008	2,000	11	9	7	3	14.40	**10.08**
162-6	.008	3,000	10	8	5	3	14.40	**10.08**
151-6	.01	2,000	10	8	5	3.5	14.40	**10.08**
140-6	.015	1,500	12	10	7	4	13.00	**9.10**
784-6	.015	2,000	12	12	8	4	14.40	**10.08**
131-6	.02	2,000	12	11	10	7	16.00	**11.20**
479-6	.03	2,000	14	20	15	7	16.00	**11.20**
480-6	.04	1,500	12	13	11	6	14.40	**10.08**
118-6	.05	1,500	13	15	12	7	14.50	**10.15**
111-6	.1	500	17	20	15	8	16.50	**11.55**
406-6	.1	1,000	18	20	15	8	19.00	**13.30**
110-6	.1—.1	250	20	20	15	10	21.00	**14.50**
105-6	.2	250	18	20	16	12	22.00	**15.40**
885-6	.25	250	18	20	16	12	24.00	**16.80**

BAKELITE CASED MICA TRANSMITTING CAPACITORS

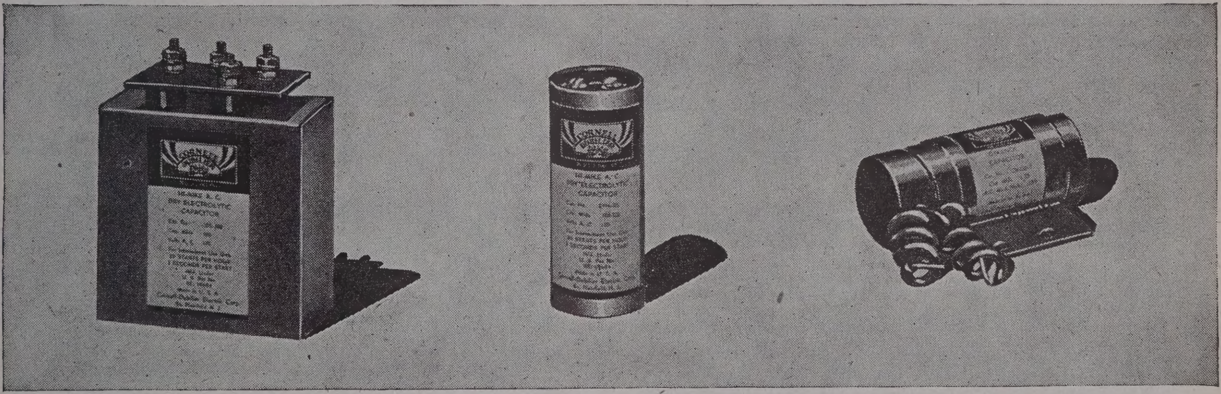
TYPE 15L BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps. 3000 kc.	1000 kc.	300 kc.	100 kc.	List Price	Net Price
639-15L	.00005	3,000	1.2	.6	.15	.05	$10.80	**$7.56**
583-15L	.0001	3,000	2.2	.8	.3	.1	10.80	**7.56**
657-15L	.00015	3,000	2.3	1	.45	.15	10.80	**7.56**
582-15L	.0002	3,000	3	1.2	.6	.2	10.80	**7.56**
805-15L	.00025	3,000	3	2.5	1	.4	10.80	**7.56**
640-15L	.0003	3,000	3.5	2	.8	.4	10.80	**7.56**
641-15L	.0004	3,000	4	2	.9	.45	10.80	**7.56**
642-15L	.0005	3,000	4	2	1	.55	10.80	**7.56**
643-15L	.0006	3,000	4.5	2	1.2	.6	10.80	**7.56**
727-15L	.0008	3,000	4.5	2.5	1.5	.7	10.80	**7.56**
581-15L	.001	3,000	5	3	1.6	.8	10.80	**7.56**
679-15L	.0015	3,000	6	3.5	2	1	10.80	**7.56**
726-15L	.002	3,000	6.5	4	2.5	1.5	10.80	**7.56**
645-15L	.003	2,000	7.5	5	3	1.5	10.80	**7.56**
699-15L	.004	2,000	8	6	3.5	1.6	10.80	**7.56**
725-15L	.005	2,000	8.5	6.5	4	2	10.80	**7.56**
580-15L	.006	2,000	9	7.5	4.5	2.2	10.80	**7.56**
724-15L	.008	1,500	10	8	5	2.3	10.80	**7.56**
677-15L	.01	1,000	10	8	5	2.5	10.80	**7.56**
723-15L	.02	1,000	11	10	7	3	11.50	**8.05**
722-15L	.05	500	11	10	8	5	11.50	**8.05**
721-15L	.1	250	11	12	10	6	12.00	**8.40**

TYPE 30B BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps. 3000 kc.	1000 kc.	300 kc.	100 kc.	List Price	Net Price
533-30B	.0001	4,000	(20 Amps. at 60 mc.)		(3 Amps. at 4 mc.)		$22.00	**$15.40**
958-30B	.00025	8,000	7	4.5	1.5	.5	30 00	**21.00**
959-30B	.0005	8,000	8.5	6	3	1	30 00	**21.00**
960-30B	.001	8,000	10	8.5	4.5	1.5	34.00	**23.80**
961-30B	.002	8,000	11	11	7.5	2.5	34 00	**23.80**
759-30B	.003	8,000	12	14	10	5	36 00	**25.20**
757-30B	.004	8,000	12	14	10	6	38 00	**26.60**
758-30B	.005	8,000	13	15	11	6	42 00	**29.40**
756-30B	.006	6,000	15	15	11	6	42 00	**29.40**
962-30B	.01	5,000	16	20	15	8	36 00	**25.20**
915-30B	.01	8,000	16	20	15	8	48 00	**33.60**
963-30B	.02	5,000	18	20	17	10	48 00	**33.60**
741-30B	.03	4,000	20	20	18	12	48.00	**33.60**
771-30B	.05	2,000	18	25	22	12	54.00	**37.80**
964-30B	.05	4,000	18	25	22	12	54.00	**37.80**
113-30B	.1	2,000	18	25	22	12	42.00	**29.40**
603-30B	.2	600	18	25	22	12	34.00	**23.80**
750-30B	.25	600	18	25	22	12	38.00	**26.60**
933-30B	.3	600	18	25	22	12	38.00	**26.60**
604-30B	.5	600	18	25	22	12	46.00	**32.20**
898-30B	1.0	600	18	25	22	12	72.00	**50.40**

ELECTROLYTIC MOTOR STARTING CAPACITORS



TYPES JDS, ETN AND ETNCB MOTOR STARTING CAPACITOR REPLACEMENTS

Types ETN and JDS Electrolytic Motor-Starting Capacitors are universal replacement units for use in standard makes of oil-burners, refrigerators and other motor driven equipment. The list of units below simplifies the selection of the capacitor required when the capacity, voltage rating, and size are known.

In many cases where a round can-type unit is to be replaced a smaller size capacitor of the same capacity and voltage rating may be selected as a replacement. The smaller size unit may be wrapped tightly with ordinary corrugated paper and fitted into the capacitor housing on the motor. While only the most widely used range of capacities are listed below, Type ETN 110 V.A.C. capacitors can be supplied in intermediate capacities from 10 mfds. to 498 mfds.

TYPE JDS–110 VOLTS A.C. 50-60 CYCLES

Cat. No.	Cap. Mfd.	Dimensions—Ins. L. x W. x T.	List Price
JDS-10	10	3½ x 3½ x 2	$2.30
JDS-20	20	3½ x 3½ x 2	2.30
JDS-25	25	3½ x 3½ x 2	2.30
JDS-30	30	3½ x 3½ x 2	2.40
JDS-40	40	3½ x 3½ x 2	2.40
JDS-50	50	3½ x 3½ x 2	2.50
JDS-60	60	3½ x 3½ x 2	2.50
JDS-65	65	3½ x 3½ x 2	2.50
JDS-70	70	3½ x 3½ x 2	2.55
JDS-80	80	3½ x 3½ x 2	2.55
JDS-90	90	3½ x 3½ x 2	2.65
JDS-100	100	3½ x 3½ x 2	2.65
JDS-115	115	3½ x 3½ x 2	2.80

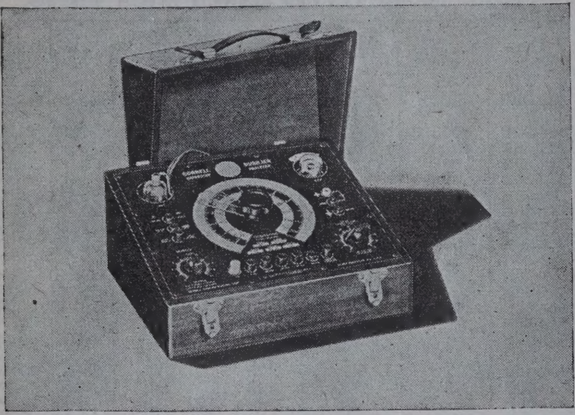
All units are furnished with tightly fitted insulating cardboard tube or paper box casings with screw terminals on Type ETN or with terminal board on Type JDS capacitors. Type ETN units are available with black lacquered steel end caps, designated as Type ETNC, or with both end caps and black lacquered steel mounting bracket designated as Type ETNCB (see illustration above). Units must be designated accordingly upon ordering. (See note below.)

TYPE ETN–110 VOLTS A.C. 50-60 CYCLES

Cat. No.	Cap. Mfd. Min.–Max.	Dimensions—Ins. Dia. x Lgth.	List Price
ETN-20	20–24	1⅜ x 2½	$1.35
ETN-35	32–36	1⅜ x 2½	1.45
ETN-40	38–46	1⅜ x 2½	1.45
ETN-45	43–48	1⅜ x 2½	1.45
ETN-55	53–60	1⅜ x 2½	1.50
ETN-70	64–72	1⅜ x 2¾	1.50
ETN-80	75–84	1⅜ x 3¼	1.60
ETN-90	86–96	1⅜ x 3¼	1.65
ETN-100	97–107	1⅜ x 3¼	1.70
ETN-110	107–129	1⅜ x 3¼	1.70
ETN-115	108–120	1⅜ x 3¼	1.70
ETN-130	124–138	1⅜ x 3¼	1.80
ETN-145	130–157	1⅜ x 4⅛	3.40
ETN-155	145–162	1⅜ x 4⅛	2.20
ETN-175	161–180	1⅜ x 4⅛	2.40
ETN-200	189–210	1½ x 4⅛	4.10
ETN-225	216–240	1¾ x 4⅛	4.45
ETN-340	324–360	2 x 4⅛	4.80
ETN-400	378–420	2 x 4⅛	6.00
ETN-450	432–480	2½ x 4⅛	6.00

NOTE—For units with metal end caps, Type ETNC, add 60c to list price. For units with metal end caps and mounting bracket, Type ETNCB, add $1.00 to list price.

CAPACITOR TEST INSTRUMENTS



C-D CAPACITOR ANALYZER

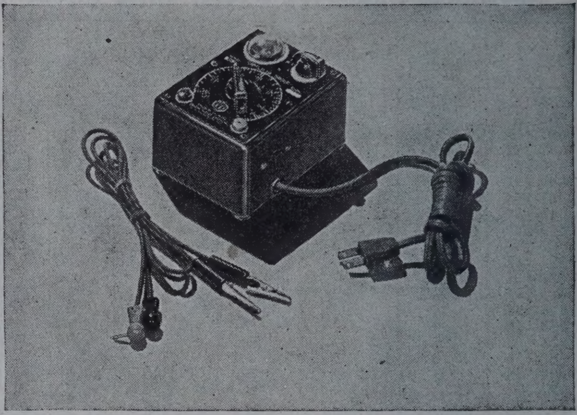
The Model BF-50 Capacitor Analyzer quickly and accurately measures all important characteristics of all types of capacitors. It offers the most accurate and thorough capacitor test of any instrument of its type, and may be operated on any 110-volt, 50-60 cycle power line.

The analyzer will determine the true condition of all paper, mica and electrolytic capacitors, including A.C. motor starting types. It is the only instrument of its type which provides a complete test for all capacitors, with amplifier for adequate sensitivity, easy reading linear scales, push-button switches for simplicity of adjustments, D.C. voltage supply and visual eye leakage indicator.

Features of C-D Analyzer

1. Measures Capacity—Accurately measures capacity of paper, mica, air, electrolytic and motor-starting capacitors from .00001 to 240. mfd.
2. Measures Power Factor—Measurements of power factor from zero to 50 percent on all types of electrolytic capacitors including motor-starting types.
3. Employs Wien Bridge—Assures permanent accuracy of capacity and power factor measurements. Readings not affected by line voltage variations.
4. Indicates Insulation Resistance—Insulation resistance measurements of paper and mica capacitors up to 1500 megohms. Also measures many types of insulation.
5. Indicates Leakage—Measurements of leakage of electrolytic capacitors by means of built-in direct current power supply.
6. Visual Eye Leakage Indicator—Provides simplified and reliable leakage tests on all types of capacitors. Enables measurements to be made rapidly.
7. Detects Defective Capacitors—Character measurements, such as leaky, shorted, open, high and low capacity, and high power actor on all capacitors.
8. High Sensitivity on All Measurements—Amplifier for capacity, power factor and leakage tests provides sharp and accurate readings. Amplifier built in Analyzer.
9. Balance Sensitivity Control—Provides sharp or broad balances for quick and accurate readings. All readings are made simply and directly.
10. Direct Reading Linear Scale Calibration—Provides simplified measurements. All scales on panel uniformly spaced, easy to read, thus avoiding possible errors in using multipliers or charts.
11. Push-Button Switching—For convenient and simplified adjustments, all tests and circuit changes are made by means of modern push-button switches.
12. Visual Eye Bridge Balance—Visual detector gives positive indication of bridge balance for convenient, simplified and accurate capacity and power factor measurements.
13. Six Color-Coded Scales—Accurately calibrated, six color-coded scales. Uniformly spaced over total spacing of sixty inches. Easy to read. No "blind" spots.
14. General Purpose Instrument—May be used to check continuity capacity between circuits, insulation of transformer windings and other types of coils, etc.
15. Self-Contained—Portable—An instrument complete in itself, requiring no external standard, headphones, meters or accessories. A portable unit, for 110 volt, 50-60 cycle operation, supplied in walnut cabinet, removable cover, with carrying handle. Size, 6 ½ x 12 x 9 ¾ inches. Weight, 9 pounds.

MODEL BF-50 CAPACITOR ANALYZER
List Price, less tubes, $49.80
Net Price.. **$29.88**
For Operation on 110 volts, 50-60 cycles.

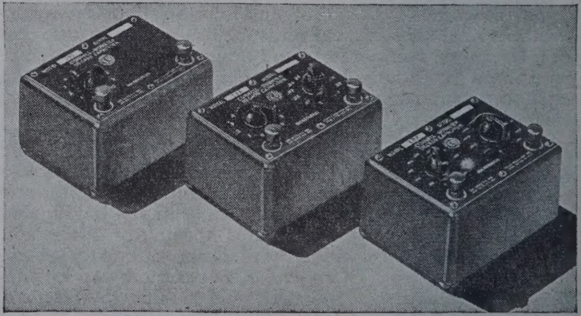


C-D CAPACITOR BRIDGE

Features of C-D Capacitor Bridge

1. Measures Capacity—Accurately measures capacity of paper mica electrolytic and air capacitors from .00001 mfd. to 50. mfds.
2. Indicates Power Factor—Power factor of electrolytic capacitor indicated by means of visual eye detector tube.
3. Detects Defective Capacitors—Detects many types of defective capacitors, open and short circuited, high and low capacity, and high power factor.
4. Checks Circuit Continuity—May be used on continuity meter. A handy instrument for checking circuits, coils, transformers and many other uses.
5. Employs Wien Bridge—Employs Wien Bridge circuit for all measurements. Accuracy independent of line voltage variations.
6. Visual Eye Bridge Balance—Dual type visual bridge balance for accurate measurements facilitates quick tests on service jobs.
7. Direct Reading Scale—Direct reading ranges with all scale markings directly in microfarads. Clear reading dial scale. All capacity calibrations marked on panel. No charts or multipliers required.
8. Self-Contained—The Capacitor Bridge is complete in itself and requires no headphones, standards, external meters or similar accessories.
9. Extremely Compact—The unusually small size of this bridge makes it particularly handy for portable use—3⅝" x 5" x 3" weight 2 pounds.
10. Attractive—Supplied in attractive walnut Bakelite case complete with detachable test leads and useful instruction booklet.

MODEL BN CAPACITOR BRIDGE
List Price, less tubes, $19.80
For operation on 110 volts, 60 cycles. Net Price...... **$11.88**



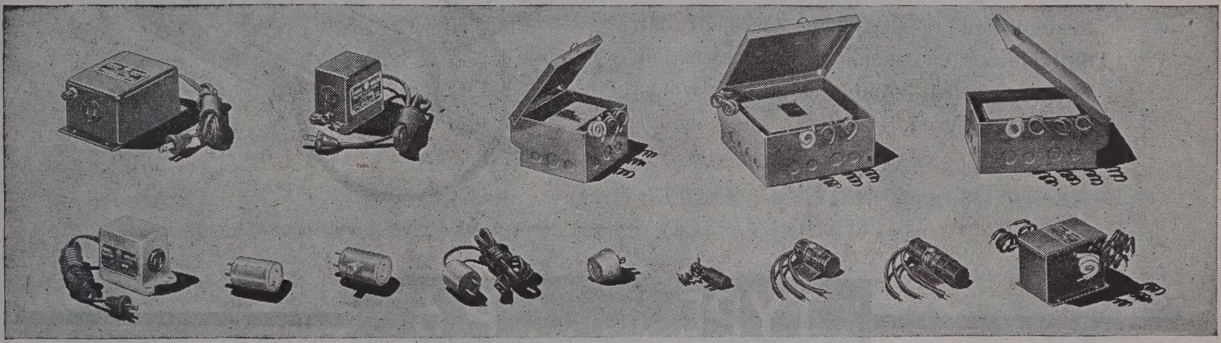
C-D CAPACITOR DECADES

C-D Capacitor Decades provide accurate standards over a wide range of capacity. May be used in groups of the three decades, shown above, or used individually for maximum flexibility. Each decade is furnished with calibration chart giving exact capacity values for all scale markings, extending use to more precise measurements.

Rated Voltage—600 D. C.—220 A. C.

Model	Capacity	+ or — Tol.	Dielectric	List Price	Net Price
CDA-5	.011 mfd. in .0001 mfd. steps	5%	Mica	$10.80	**$6.48**
CDB-5	1.1 mfd. in .01 mfd. steps	5%	Oil-Paper	10.80	**6.48**
CDB-3	1.1 mfd. in .01 mfd. steps	3%	Oil-Paper	13.80	**8.28**
CDC-5	10.0 mfd. in 1.0 mfd. steps	5%	Oil-Paper	19.20	**11.52**
CDC-3	10.0 mfd. in 1.0 mfd. steps	3%	Oil-Paper	22.20	**13.32**

QUIETONE INTERFERENCE FILTERS



Top row—Types IF-18; IF-21; IF-11 & 12; IF-7A, 15 & 16, and IF-14

Bottom row—Types IF-19; IF-4 & 5; IF-6; IF-22; IF-20; IF-24; IF-25; IF-26; IF-27, 28 & 29

RADIO AND APPLIANCE QUIETONES

Most satisfactory results are obtained when Quietones are installed at the source of the interference. A Quietone installed in connection with an offending appliance corrects the noise caused by that appliance.

Where source of interference cannot be located a Quietone connected in the electric supply line of the radio receiver will alleviate, if not fully correct, the condition. When a Quietone is installed, interference will be greatly reduced. Remaining interference usually enters receiver through the antenna system.

Quietones for Use at the Radio Receiver

TYPE IF-4—For use on small radio receivers, such as A.C.-D.C. midget sets, etc., where noise level is not too severe. Connects in power line between the radio receiver plug and wall receptacle. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut, or green finish. List Price $0.90 Net Price **$0.54**

TYPE IF-18—For use in connection with all radio receivers where noise level is severe. Furnished in Bakelite case (see colors). Employs highly effective all-wave capacitive-inductive type filter. Ratings: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory or walnut Bakelite. List Price $6.00 Net Price **$3.60**

Quietones for Use at Appliances

TYPE IF-5—For small electrical appliances such as food mixers, hair dryers, etc., where radio interference is of low intensity. Plug type filter. Convenient to install. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut or green finish. List Price $0.90 Net Price **$0.54**

TYPE IF-6—For all types of home electrical appliances where interference is of moderately low intensity. Installed between appliance and power supply line with short return lead which reduces radiation. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut or green finish. List Price $1.50 Net Price **$0.90**

TYPE IF-18—An efficient all-wave capacitive-inductive sectional band type filter for use in connection with all types of electrical appliances where interference conditions are severe. Provided with frame connection for reduction of radiation. Furnished in Bakelite case (see colors). Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case, walnut finished. List Price $6.00 Net Price **$3.60**

TYPE IF-19—Capacitive-inducted type filter for use where interference is severe. Frame connection provided. Furnished in Bakelite case. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case. Ivory or walnut finish. List Price $4.80 Net Price **$2.88**

TYPE IF-20—For use on small electrical appliances where interference is very low. Simply connected to cord plug of appliance and plugged into wall receptacle. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case. Ivory or walnut finish. List Price $0.60 Net Price **$0.36**

TYPE IF-21—All-wave capacitive-inductive type filter for use on appliances where return lead to the frame of appliance cannot be made, such as shaver, barber clippers, etc. Furnished in Bakelite case. Rating: 110 V.A.C.-D.C. 1.6 amps. Colors—Bakelite case. Ivory or walnut finish. List Price $3.00 Net Price **$1.80**

TYPE IF-22—For use in connection with electric shavers of all standard types. Line cord and plug provided with Schick and Packard type adapters which fit practically all type shavers. (Specify type desired when ordering.) Type IF-22A for Schick, Knapp Monarch, and similar type shavers. Type IF-22B for Packard, Zephyr, Remington-Rand and Ronson type shavers. Rating: 110 V.A.C. 5 amps. Colors—Bakelite case. Ivory or black finish. List Price $2.15 Net Price **$1.29**

INDUSTRIAL QUIETONES

The development of radio receiving and broadcasting equipment has been perfected to a degree where complete enjoyment of programs is within the reach of all. However, only too frequently is radio reception marred by disturbing noises commonly referred to as "man-made static." This condition does not have to be endured. It is unnecessary to tolerate the majority of these offending noises. Quietone Filters enable you to enjoy quiet, noise-free reception.

Although atmospheric disturbances in many instances cause radio noises, this condition is not chronically annoying. With the average radio receiver, noise is generally caused by the operation of electrical appliances or apparatus which create high frequency oscillations. Many types of equipment cause minute sparks as a result of a change in electrical conditions within the device, which are essential to its operation. In effect these appliances act as miniature radio transmitters, setting up a disturbance which may affect radio receivers at a considerable distance.

It is highly desirable to correct noise conditions at the source as one filter properly installed at this point may eliminate the noise in a number of radio receivers. Where it is impossible to locate the equipment which is causing the interference a Quietone installed at the receiver will correct the noise in that receiver.

The Quietones listed below will correct radio noise conditions caused by motors, generators, elevators, stokers and many other types of industrial electrical apparatus. They are designed for convenient mounting, and contain highest quality capacitors, with lowest possible impedance internal connections. There are no current limitations for (CP) Capacitive Quietones.

Capacitive (CP) Quietones

Type	Volts A.C.—D.C.	Connections	Housing	List Price	Net Price
IF-24*	110	Flex-Leads	Metal	$0.90	**$0.54**
IF-25	110–220	Flex-Leads	Metal	3.60	**2.16**
IF-26	110–220	Flex-Leads	Metal	6.00	**3.60**
IF-11	110	BX	Cutout Box	8.40	**5.04**
IF-12	220	BX	Cutout Box	12.00	**7.20**
IF-14**	110–220	BX	Cutout Box	16.80	**10.08**

** All Quietones listed above with exception of IF-14 are for single phase circuits. IF-14 is for 2 or 3 phase or 3-wire circuits.

* Dual unit for use on fluorescent lighting fixtures.

The Quietones listed below are for the more severe radio noise conditions caused by motors, generators, elevators, diathermy, oil burners, etc. They are designed for convenient mounting and quick connection to these machines. They consist of low-loss coils and highest quality capacitors with correct noise conditions in both broadcast and short wave receivers. They are the most efficient filters available for heavy duty application. All capacitive-inductive (CI) Quietones are for single phase circuits.

Capacitive-Inductive (CI) Quietones

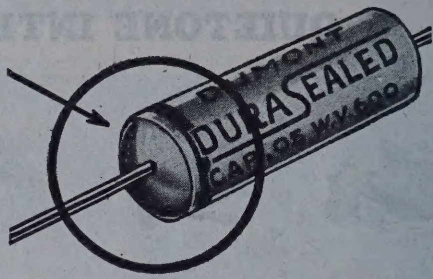
Type	Volts A.C.—D.C.	Max Amps	Connections	Housing	List Price	Net Price
IF-7A*	110–220	5	BX	Cutout Box	$9.00	**$5.40**
IF-15	110–220	10	BX	Cutout Box	18.00	**10.80**
IF-16	110–220	20	BX	Cutout Box	26.40	**15.84**
IF-27	110	5	Flex-Leads	Steel Box	5.40	**3.24**
IF-28	110	10	Flex-Leads	Steel Box	9.60	**5.76**
IF-29	110	20	Flex-Leads	Steel Box	16.80	**10.08**

*For use on oil burners.

DUMONT MIDGET PAPER CAPACITORS

FEATURES:

Resinoid end sealed, will not melt out. Suitable for 100% moistureproof operation. Vacuum sealed, eliminates all air voids. Long life assured.



TYPE . . . . P 6

Catalog Number	Cap. M.F.D.	400 V.D.C.		600 V.D.C.		1000 V.D.C.		1600 V.D.C.	
		Size: D x L	Price	Size: D x L	Price	Size: D x L	Price	Size: D x L	Price
P6-1	.001	⅜ x ⅞″	$0.30	⅜ x ⅞″	$0.30	⅜ x 1″	$0.50	⅜ x 1¼″	$0.60
P6-2	.002	⅜ x ⅞″	.30	⅜ x ⅞″	.30	⅜ x 1″	.50	⅜ x 1¼″	.60
P6-3	.003	⅜ x ⅞″	.30	⅜ x ⅞″	.30	⅜ x 1″	.50	⅜ x 1¼″	.60
P6-4	.004	⅜ x ⅞″	.30	⅜ x ⅞″	.30	⅜ x 1″	.50	⅜ x 1¼″	.60
P6-5	.005	⅜ x ⅞″	.30	⅜ x ⅞″	.30	⅜ x 1″	.50	⅜ x 1¼″	.60
P6-6	.006	⅜ x ⅞″	.30	⅜ x ⅞″	.30	⅜ x 1″	.50	⅜ x 1¼″	.60
P6-7	.008	⅜ x ⅞″	.30	⅜ x ⅞″	.30	⅜ x 1″	.50	⅜ x 1¼″	.70
P6-8	.01	⅜ x ⅞″	.30	⅜ x ⅞″	.30	⅜ x 1″	.50	⅜ x 1¼″	.80
P6-9	.02	⅜ x ⅞″	.30	⅜ x ⅞″	.30	⅜ x 1″	.50	⅜ x 1½″	.90
P6-10	.03	⅜ x 1¼″	.30	⅜ x 1½″	.30	⅜ x 1½″	.50	⅜ x 1½″	1.00
P6-11	.05	⅜ x 1¼″	.30	⅜ x 1½″	.30	⅜ x 1½″	.60	⅜ v 2″	1.50
P6-12	.1	⅜ x 1⅜″	.30	⅝ x 1½″	.40	⅜ x 2″	.70	¾ x 2″	2.00
P6-13	.25	¾ x 1¾″	.50	¾ x 2″	.50	¾ x 2½″	.80		

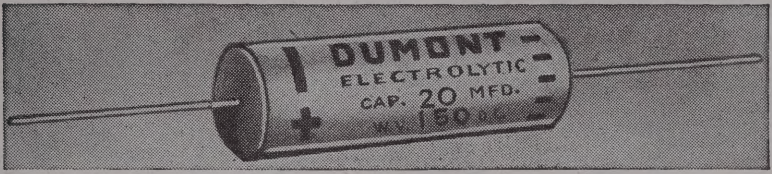
Sizes ± 1/32″

Pat. Pend.

M'F'G BY DUMONT ELECTRIC CO.

34-54 HUBERT ST
NEW YORK, N. Y.

DUMONT MIDGET PAPER CAPACITORS



NEW DUMONT *Electrolytics*

END SEALED IN WITH DUMONT RESINOID . . . WILL NOT MELT OUT . . .

At last an electrolytic condenser in which the seal is made of moisture-proof Resinoid that will safely operate in any temperature without the ends melting out . . . and at the same time is highly moisture-proof.

Catalogue Number	Volt. W.	Cap. M.F.D.	Sizes	List Prices
E1-1	25	25	9/16 x 1¼″	$0.60
E1-2	25	50	11 x 2¼″	.70
E1-3	25	100	¾ x 2¼″	.85
E1-4	50	12	9/16 x 2¼″	.55
E1-5	150	20	11/16 x 2¼″	.75
E1-6	150	20 - 20	13/16 x 2¼″	1.30
E1-7	150	50	13/16 x 2¼″	1.10
E1-8	250	20	13/16 x 2¼″	1.00
E1-9	450	10	13/16 x 2¼″	.85
E1-10	450	10 - 10	1 x 2¼″	1.40
E1-10A	450	20	1 x 2¼″	1.50
E1-11	450	40	1¼ x 2¼″	1.75

Sold through exclusive territory arrangement only.

Write for attractive proposition.

M'F'G BY **DUMONT ELECTRIC CO.**

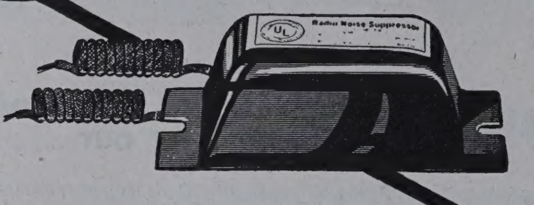
34-54 HUBERT ST.
NEW YORK, N. Y.

Dumont
QUALITY
CAPACITORS

Specially Designed for DC & AC FLUORESCENT LAMP FIXTURES

A distinctive New Type unit . . . specially designed to meet today's Modern Market . . .
Top Quality Engineering and Construction throughout.
Essential for proper Starting Direct Current Fluorescent Fixtures . . .

. . . Fully Guaranteed . . .



UNDERWRITERS' LABORATORIES
APPROVED PRODUCTS
for use with
FLUORESCENT
LAMP CIRCUITS
RADIO FILTERS
and other
ELECTRICAL
APPLIANCES

ESSENTIAL FOR DC LAMPS

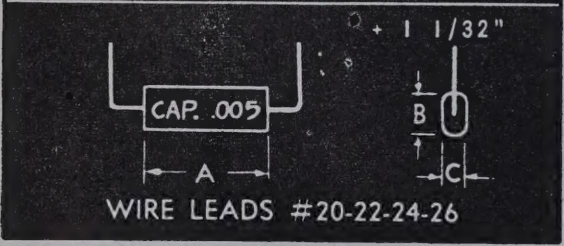
For quick starting at high or low temperature.

Dumont capacitators assure starting of lamps due to low voltage retarding such starting.

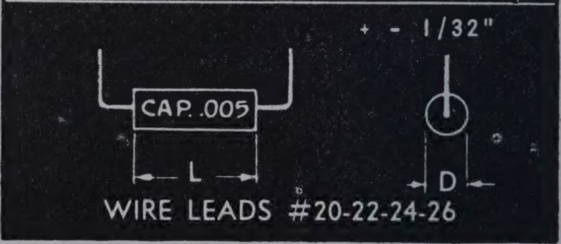
CAT. No. RU 1

Dual capacitator unit for eliminating radio interference caused by fluorescent lamps and other electrical apparatus. **List Price $1.00**

TYPE P1



TYPE P2



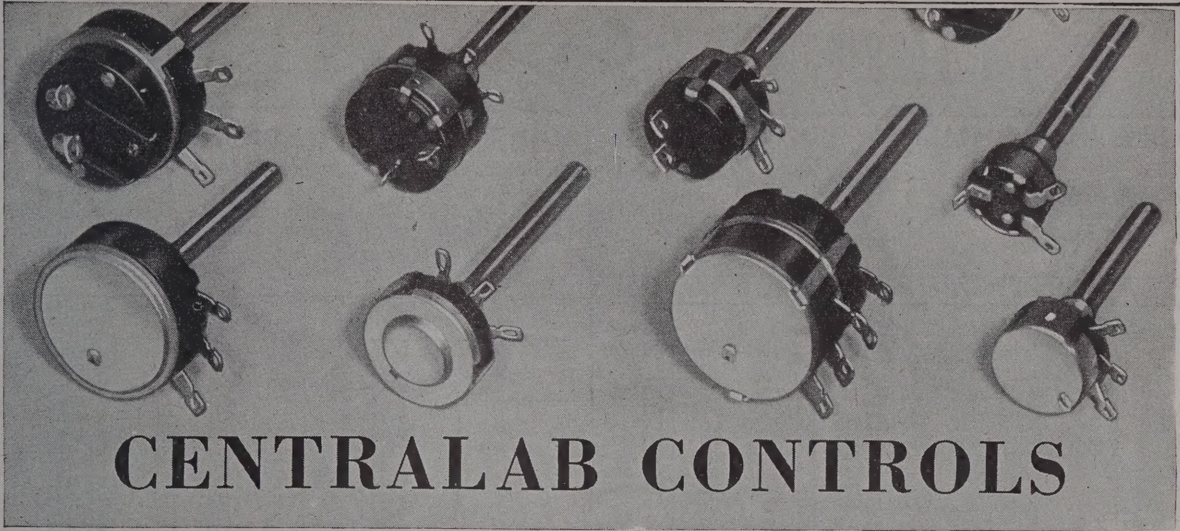
FEATURES: Type P1-P2 for use up to 95° Humidity. Type P1N-P2N for use up to 100° Humidity to 85° Centigrade. Sealed in DUMONT RESINOID cement. Leads will not pull out at high temperature. Excellent Q. high leakage resistance. Non-inductive—soldered leads brass or copper.

Catalog Number	Cap. M.F.D.	Voltage	Dimensions A	B	C
P1-3	.001	600	3/4	5/16	1/8
P1-4	.002	600	3/4	5/16	1/8
P1-5	.005	150	3/4	5/16	1/8
P1-6	.006	150	3/4	5/16	1/8
P1-7	.01	150	3/4	5/16	1/8
P1-8	.02	150	3/4	5/16	1/8
P1-9	.05	150	3/4	3/8	1/8
P1-10	.1	150	3/4	1/2	3/16
P1-11	.25	150	3/4	3/4	3/8
P1-12	.5	150	1 1/4	1	5/16
P1-13	1.0	150	1 1/4	1	5/8

Catalog Number	Cap. M.F.D.	Voltage	Dimensions L	O
P2-3	.001	150	3/4	3/16
P2-4	.002	150	3/4	3/16
P2-5	.005	150	3/4	3/16
P2-6	.006	150	3/4	3/16
P2-7	.01	150	3/4	1/4
P2-8	.02	150	3/4	5/16
P2-9	.05	150	3/4	3/8
P2-10	.1	150	3/4	1/2
P2-11	.25	150	7/8	5/8
P2-12	.5	150	1 1/2	5/8
P2-13	1.0	150	1 1/2	3/4

Special Note: Type Pin P2N designed to meet A.W.S. specifications. All sizes are plus or minus $\frac{1}{16}$". Available in 300, 600, 1000 and 2000 volts. Patent pending.

M'F'G BY **DUMONT ELECTRIC CO.** 34-54 HUBERT ST. NEW YORK, N. Y.



CENTRALAB CONTROLS

CENTRALAB RADIOHMS WITHOUT TAP, $1.00

Resistance Ohms	Curve	Usual Circuit Location	**Standard**	**Midget**
500	1	Voltage Divider	**A-100**	**N-157**
1,000	1	Voltage Divider	**A-101**	**N-158**
2,000	1	Voltage Divider	**A-102**	**N-159**
3,000	1	Voltage Divider	**A-103**	**N-160**
4,000	1	Voltage Divider	**A-104**	**N-161**
5,000	1	Voltage Divider	**AF-105**	**NF-106**
5,000	6	Antenna Shunt	**A-106**	**N-162**
7,500	1	Voltage Divider	**AF-107**	**NF-163**
10,000	1	Antenna, C-Bias	**AF-108**	**NF-107**
10,000	3	Antenna, C-Bias	**AF-109**	**NF-100**
10,000	4	Antenna, C-Bias	**AF-110**	**NF-108**
10,000	6	Antenna Shunt	**A-111**	**N-109**
15,000	3	Antenna, C-Bias	**AF-112**	**NF-110**
15,000	4	Antenna, C-Bias	**AF-113**	**NF-111**
20,000	3	Antenna, C-Bias	**AF-114**	**NF-112**
25,000	1	Voltage Divider	**AF-115**	**NF-113**
25,000	4	C-Bias	**AF-116**	**NF-164**
25,000	3	Antenna Shunt	**AF-117**	**NF-101**
50,000	1	Voltage Divider	**A-118**	**N-114**
50,000	6	Tone Control	**A-119**	**N-115**
75,000	1	Voltage Divider		**N-175**
75,000	6	Tone Control	**A-120**	**N-165**
75,000	4	C-Bias	**AF-121**	**NF-166**
100,000	1	Voltage Divider	**A-122**	**N-116**
100,000	6	AF Grid or Tone	**A-123**	**N-117**
150,000	6	AF Grid or Tone	**A-124**	**N-167**
200,000	1	AF Grid or Tone	**A-125**	**N-168**
200,000	4	C-Bias	**AF-126**	**NF-169**
250,000	1	Voltage Divider		**N-176**
250,000	6	AF Grid or Tone	**A-127**	**N-102**
500,000	1	Voltage Divider	**A-128**	**N-118**
500,000	4	Series in RF Plate	**A-129**	**N-170**
500,000	6	AF Grid or Tone	**A-130**	**N-103**
750,000	6	AF Grid or Tone	**A-131**	**N-171**
1 Meg.	6	AF Grid or Tone	**A-132**	**N-104**
2 Megs.	6	AF Grid or Tone	**A-133**	**N-155**
3 Megs.	6	AF Grid or Tone	**A-134**	**N-156**
5 Megs.	1	Voltage Divider		**N-177**
10 Megs.	1	Voltage Divider		**N-178**

CENTRALAB RADIOHMS WITH TAP, $1.50

Resistance Max.	Tap	Usual Circuit Location	**Standard**	**Midget**
250,000	75,000	Tapped Audio Grid	**AT-135**	**NT-119**
250,000	125,000	Tapped Audio Grid		**NT-147**
350,000	75,000	Tapped Audio Grid		**NT-148**
500,000	150,000	Tapped Audio Grid	**AT-136**	**NT-120**
500,000	250,000	Tapped Audio Grid		**NT-149**
1 Meg.	200,000	Tapped Audio Grid		**NT-150**
1 Meg.	300,000	Tapped Audio Grid	**AT-137**	**NT-121**
2 Megs.	200,000	Tapped Audio Grid		**NT-151**
2 Megs.	400,000	Tapped Audio Grid		**NT-152**
2 Megs.	600,000	Tapped Audio Grid	**AT-138**	**NT-122**
2 Megs.	1 Meg.	Tapped Audio Grid		**NT-153**
2 Megs.	1 Meg.	Tapped Audio Grid		**NT-154**

ATTACHABLE SWITCH COVERS

Circuit	**For Standard or Wire-wound**	**For Midget**	**Price**
Single Pole Single Throw	**K-10**	**K-155**	**$0.50**
Single Pole Double Throw	**K-11**	**K-156**	**.60**
Double Pole Single Throw	**K-12**	**K-157**	**.60**
Four Point	**K-15**	**K-158**	**.60**
Single Pole Double Throw (Operates at clockwise position)	**K-16**		**.60**

ENGINEERED TO MEET NEEDS OF LARGE MAJOR INDUSTRY

Centralab Radiohms are a combination of hard-surfaced materials, patented design and skilled workmanship. **Standards** have non-rubbing contact bands and 3″ aluminum shafts from end of $\frac{3}{8}''$ bushings. Cases are $1\frac{7}{16}''$ diameter by $\frac{9}{16}''$ depth. **Midgets** have $1\frac{3}{64}''$ diameter cases. Wall type resistor strips mounted on the inner circumference of the shell are a feature of both types. **Round Shafts** are equivalent to Standards with grooves every $\frac{1}{2}''$ for break-off purposes. **Submidgets** have $2\frac{3}{8}''$ grooved shafts, with cases $\frac{3}{4}''$ in diameter and $\frac{3}{8}''$ in depth.

ROUND SHAFT RADIOHMS, $1.00

Resistance	Curve	**Catalog Number**
10M	1	**AS-139**
25M	1	**AS-140**
50M	1	**AS-141**
100M	1	**AS-142**
100M	6	**AS-143**
250M	1	**AS-144**
250M	6	**AS-145**
500M	1	**AS-146**
500M	6	**AS-147**
1 Meg.	6	**AS-148**
5 Megs.	6	**AS-149**
10 Megs.	6	**AS-150**

SUBMIDGET RADIOHMS, $1.00

Resistance	Curve	**Catalog Number**
1M	1	**NS-10**
5M	1	**NS-11**
10M	1	**NS-12**
25M	1	**NS-13**
50M	1	**NS-14**
100M	6	**NS-15**
250M	6	**NS-16**
500M	1	**NS-19**
500M	6	**NS-17**
1 Meg.	6	**NS-18**

TWIN MIDGET RADIOHMS, $2.50

Resistance		**Catalog Number**
Front Base	Back Base	
10,000	25,000	**C-100**
10,000	50,000	**C-101**
100,000	100,000	**C-102**
250,000	250,000	**C-103**
500,000	500,000	**C-104**

CENTRALAB CRL CONTROLS

ELF RADIOHMS

ELF RADIOHMS —Fully shielded small controls with long skirt metal covers and back plates. Cases are $\frac{57}{64}$″ diameter, $\frac{17}{32}$″ depth ($\frac{25}{32}$″ with switch). Shafts extend 3″ from ⅜″ bushing.

WITHOUT TAP, $1.00				WITH TAP, $1.50		
Resistance		Usual Circuit Location	**Catalog Number**	Resist. Max.	Tap	**Catalog Number**
Ohms	Curve					
10M	4	Antenna, C-bias	**LF-100**	250M	75M	**LT-150**
25M	3	Antenna, C-bias	**LF-101**	500M	150M	**LT-151**
50M	6	Antenna or Tone	**L-102**	1 Meg.	200M	**LT-152**
100M	6	AF Grid or Tone	**L-103**	1 Meg.	300M	**LT-153**
250M	6	AF Grid or Tone	**L-104**	2 Megs.	200M	**LT-154**
500M	6	AF Grid or Tone	**L-105**	2 Megs.	400M	**LT-155**
1 Meg.	6	AF Grid or Tone	**L-106**	2 Megs.	600M	**LT-156**
2 Megs.	6	AF Grid or Tone	**L-107**			
3 Megs.	6	AF Grid or Tone	**L-108**			

ATTACHABLE SWITCH COVERS

Catalog Number	Circuit	**Price**
K-150	Single Pole, Single Throw	**$0.50**

SPLIT-KNURL RADIOHMS

SPLIT-KNURL RADIOHMS—Controls with extruded knurled shafts that allow immediate cutting to desired length as well as fin slotting to the exact depth required. Midget switch covers may be attached.

Resistance		Type	**Catalog Number**	**Price**
Ohms	Curve			
10M	3	Plain	**NK-136**	**$1.00**
25M	4	Plain	**NK-137**	**1.00**
50M	6	Plain	**NK-138**	**1.00**
250M	6	Plain	**NK-139**	**1.00**
500M	6	Plain	**NK-140**	**1.00**
1 Meg.	6	Plain	**NK-141**	**1.00**
2 Megs.	6	Plain	**NK-142**	**1.00**
3 Megs.	6	Plain	**NK-172**	**1.00**
250M		Tapped @ 75M	**NK-173**	**1.50**
500M		Tapped @ 50M	**NK-143**	**1.50**
1 Meg.		Tapped @ 300M	**NK-144**	**1.50**
2 Megs.		Tapped @ 600M	**NK-174**	**1.50**

EXTENSION SHAFTS—For use with controls or selector switches. K-181 (4″ x ¼″ x $\frac{1}{32}$″ flat), K-183 (4″ x $\frac{3}{16}$″ x $\frac{1}{64}$″ flat). **Each**..$0.30

SHAFT COUPLERS—K161 for coupling two ¼″ shafts or one ¼″ and one $\frac{3}{16}$″ shaft. Steel, ¾″ long, $\frac{7}{16}$″ dia. K-184 insulating auto control type with ¼″ dia. hole for control shaft. Opposite end cone-shaped and slotted. **Each**..$0.25

WIRE WOUND RADIOHMS

WIRE WOUND RADIOHMS — Standard Radiohm dimensions, wire-wound resistance strip in molded bakelite case. 3″ shaft, rated at 3 watts, linear taper only. Standard switch covers may be attached. **Each, $1.00** (**$1.50** when manufactured to salt spray specifications.)

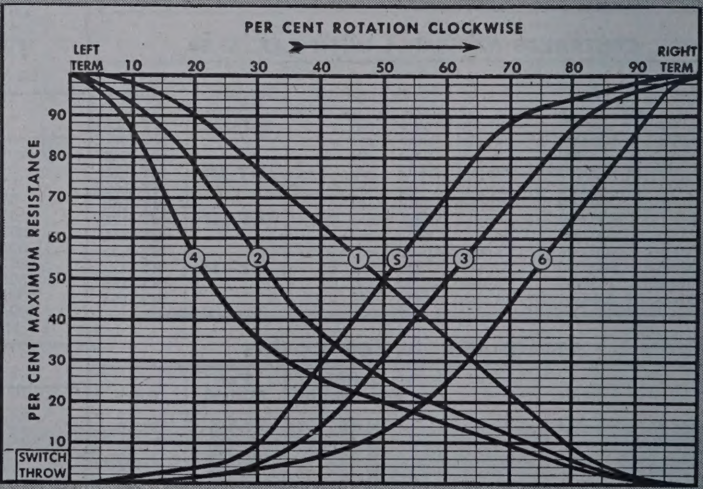
Resistance Ohms	**Catalog Number**	Resistance Ohms	**Catalog Number**
2	**V-100**	100	**V-121**
4	**V-102**	200	**V-123**
6	**V-104**	300	**V-125**
8	**V-106**	400	**V-126**
10	**V-108**	500	**V-127**
15	**V-109**	750	**V-128**
20	**V-110**	1000	**VF-129**
25	**V-111**	2000	**VF-131**
30	**V-112**	3000	**VF-133**
40	**V-114**	4000	**VF-134**
50	**V-116**	5000	**VF-135**
60	**V-117**	7500	**VF-136**
75	**V-118**	10000	**VF-137**

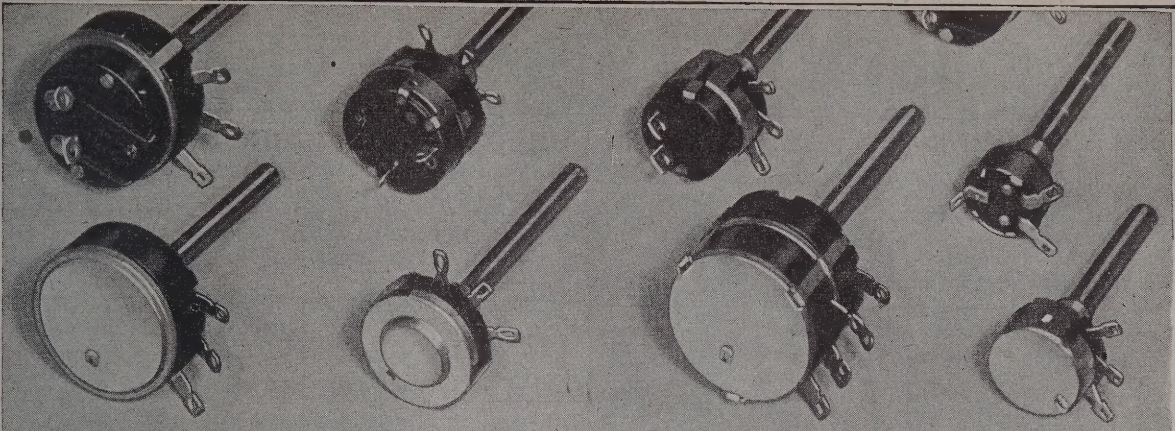
POWER RHEOSTATS

POWER RHEOSTATS — Bushing ⅜″ x ½″ long, shaft ¼″ x ½″ long. 25-watt ¾″ behind panel, 50-watt 1¼″.

	Resistance, Ohms	**Catalog Number**	**Price**
25-Watt	2	**48-002**	**$2.00**
	6	**48-006**	**2.00**
	10	**48-010**	**2.00**
	15	**48-015**	**2.00**
	25	**48-026**	**2.00**
	40	**48-042**	**2.00**
	50	**48-050**	**2.00**
	100	**48-100**	**2.00**
	150	**48-150**	**2.00**
	200	**48-200**	**2.00**
	250	**48-250**	**2.00**
	300	**48-300**	**2.00**
	400	**48-400**	**2.00**
	500	**48-500**	**2.00**
	1000	**48-810**	**2.00**
	1500	**48-815**	**2.00**
	5000	**48-850**	**2.00**
50-Watt	2	**48-003**	**$2.50**
	10	**48-011**	**2.50**
	25	**48-025**	**2.50**
	60	**48-060**	**2.50**
	100	**48-101**	**2.50**
	150	**48-151**	**2.50**
	200	**48-201**	**2.50**
	300	**48-301**	**2.50**
	500	**48-501**	**2.50**
	1000	**48-811**	**2.50**
	2500	**48-835**	**2.50**
	5000	**48-851**	**2.50**

STANDARD RESISTANCE CURVES . . . Curve 1, linear taper, uniform resistance change from either end. Curve 2, right hand log taper used as "C" bias rheostat or in cases where only right and center terminals are used. Curve 3, tapered at both ends. Used where very slow resistance change from minimum volume end with smooth change from right end is required or as antenna shunt and "C" bias of 1 or 2 tubes without bleeder current. Curve 4, slow resistance change from maximum volume with short taper from left end for antenna shunt. Use where "C" bias change gives principal volume control effect. Curve 6, log curve with slow resistance change from left end. Use in audio grid or as tone control. S Curve, linear taper with uniform resistance change from either end but tapered at both ends.





CENTRALAB CONTROLS

CENTRALAB RADIOHMS WITHOUT TAP, $1.00

Resistance Ohms	Curve	Usual Circuit Location	**Standard**	**Midget**
500	1	Voltage Divider	**A-100**	**N-157**
1,000	1	Voltage Divider	**A-101**	**N-158**
2,000	1	Voltage Divider	**A-102**	**N-159**
3,000	1	Voltage Divider	**A-103**	**N-160**
4,000	1	Voltage Divider	**A-104**	**N-161**
5,000	1	Voltage Divider	**AF-105**	**NF-106**
5,000	6	Antenna Shunt	**A-106**	**N-162**
7,500	1	Voltage Divider	**AF-107**	**NF-163**
10,000	1	Antenna, C-Bias	**AF-108**	**NF-107**
10,000	3	Antenna, C-Bias	**AF-109**	**NF-100**
10,000	4	Antenna, C-Bias	**AF-110**	**NF-108**
10,000	6	Antenna Shunt	**A-111**	**N-109**
15,000	3	Antenna, C-Bias	**AF-112**	**NF-110**
15,000	4	Antenna, C-Bias	**AF-113**	**NF-111**
20,000	3	Antenna, C-Bias	**AF-114**	**NF-112**
25,000	1	Voltage Divider	**AF-115**	**NF-113**
25,000	4	C-Bias	**AF-116**	**NF-164**
25,000	3	Antenna Shunt	**AF-117**	**NF-101**
50,000	1	Voltage Divider	**A-118**	**N-114**
50,000	6	Tone Control	**A-119**	**N-115**
75,000	1	Voltage Divider		**N-175**
75,000	6	Tone Control	**A-120**	**N-165**
75,000	4	C-Bias	**AF-121**	**NF-166**
100,000	1	Voltage Divider	**A-122**	**N-116**
100,000	6	AF Grid or Tone	**A-123**	**N-117**
150,000	6	AF Grid or Tone	**A-124**	**N-167**
200,000	1	AF Grid or Tone	**A-125**	**N-168**
200,000	4	C-Bias	**AF-126**	**NF-169**
250,000	1	Voltage Divider		**N-176**
250,000	6	AF Grid or Tone	**A-127**	**N-102**
500,000	1	Voltage Divider	**A-128**	**N-118**
500,000	4	Series in RF Plate	**A-129**	**N-170**
500,000	6	AF Grid or Tone	**A-130**	**N-103**
750,000	6	AF Grid or Tone	**A-131**	**N-171**
1 Meg.	6	AF Grid or Tone	**A-132**	**N-104**
2 Megs.	6	AF Grid or Tone	**A-133**	**N-155**
3 Megs.	6	AF Grid or Tone	**A-134**	**N-156**
5 Megs.	1	Voltage Divider		**N-177**
10 Megs.	1	Voltage Divider		**N-178**

CENTRALAB RADIOHMS WITH TAP, $1.50

Resistance Max.	Tap	Usual Circuit Location	**Standard**	**Midget**
250,000	75,000	Tapped Audio Grid	**AT-135**	**NT-119**
250,000	125,000	Tapped Audio Grid		**NT-147**
350,000	75,000	Tapped Audio Grid		**NT-148**
500,000	150,000	Tapped Audio Grid	**AT-136**	**NT-120**
500,000	250,000	Tapped Audio Grid		**NT-149**
1 Meg.	200,000	Tapped Audio Grid		**NT-150**
1 Meg.	300,000	Tapped Audio Grid	**AT-137**	**NT-121**
2 Megs.	200,000	Tapped Audio Grid		**NT-151**
2 Megs.	400,000	Tapped Audio Grid		**NT-152**
2 Megs.	600,000	Tapped Audio Grid	**AT-138**	**NT-122**
2 Megs.	1 Meg.	Tapped Audio Grid		**NT-153**
2 Megs.	1 Meg.	Tapped Audio Grid		**NT-154**

ATTACHABLE SWITCH COVERS

Circuit	**For Standard or Wire-wound**	**For Midget**	**Price**
Single Pole Single Throw	**K-10**	**K-155**	**$0.50**
Single Pole Double Throw	**K-11**	**K-156**	**.60**
Double Pole Single Throw	**K-12**	**K-157**	**.60**
Four Point	**K-15**	**K-158**	**.60**
Single Pole Double Throw (Operates at clockwise position)	**K-16**		**.60**

ENGINEERED TO MEET NEEDS OF LARGE MAJOR INDUSTRY

Centralab Radiohms are a combination of hard-surfaced materials, patented design and skilled workmanship. **Standards** have non-rubbing contact bands and 3″ aluminum shafts from end of $\frac{3}{8}''$ bushings. Cases are $1\frac{7}{16}''$ diameter by $\frac{9}{16}''$ depth. **Midgets** have $1\frac{3}{64}''$ diameter cases. Wall type resistor strips mounted on the inner circumference of the shell are a feature of both types. **Round Shafts** are equivalent to Standards with grooves every $\frac{1}{2}''$ for break-off purposes. **Submidgets** have $2\frac{3}{8}''$ grooved shafts, with cases $\frac{3}{4}''$ in diameter and $\frac{3}{8}''$ in depth.

ROUND SHAFT RADIOHMS, $1.00

Resistance	Curve	**Catalog Number**
10M	1	**AS-139**
25M	1	**AS-140**
50M	1	**AS-141**
100M	1	**AS-142**
100M	6	**AS-143**
250M	1	**AS-144**
250M	6	**AS-145**
500M	1	**AS-146**
500M	6	**AS-147**
1 Meg.	6	**AS-148**
5 Megs.	6	**AS-149**
10 Megs.	6	**AS-150**

SUBMIDGET RADIOHMS, $1.00

Resistance	Curve	**Catalog Number**
1M	1	**NS-10**
5M	1	**NS-11**
10M	1	**NS-12**
25M	1	**NS-13**
50M	1	**NS-14**
100M	6	**NS-15**
250M	6	**NS-16**
500M	1	**NS-19**
500M	6	**NS-17**
1 Meg.	6	**NS-18**

TWIN MIDGET RADIOHMS, $2.50

Resistance		**Catalog Number**
Front Base	Back Base	
10,000	25,000	**C-100**
10,000	50,000	**C-101**
100,000	100,000	**C-102**
250,000	250,000	**C-103**
500,000	500,000	**C-104**

CENTRALAB CRL CONTROLS

ELF RADIOHMS

—Fully shielded small controls with long skirt metal covers and back plates. Cases are $\frac{57}{64}$″ diameter, $\frac{17}{32}$″ depth ($\frac{25}{32}$″ with switch). Shafts extend 3″ from ⅜″ bushing.

WITHOUT TAP, $1.00				WITH TAP, $1.50		
Resistance		Usual Circuit Location	Catalog Number	Resist. Max.	Tap	Catalog Number
Ohms	Curve					
10M	4	Antenna, C-bias	**LF-100**	250M	75M	**LT-150**
25M	3	Antenna, C-bias	**LF-101**	500M	150M	**LT-151**
50M	6	Antenna or Tone	**L-102**	1 Meg.	200M	**LT-152**
100M	6	AF Grid or Tone	**L-103**	1 Meg.	300M	**LT-153**
250M	6	AF Grid or Tone	**L-104**	2 Megs.	200M	**LT-154**
500M	6	AF Grid or Tone	**L-105**	2 Megs.	400M	**LT-155**
1 Meg.	6	AF Grid or Tone	**L-106**	2 Megs.	600M	**LT-156**
2 Megs.	6	AF Grid or Tone	**L-107**			
3 Megs.	6	AF Grid or Tone	**L-108**			

ATTACHABLE SWITCH COVERS

Catalog Number	Circuit	Price
K-150	Single Pole, Single Throw	**$0.50**

SPLIT-KNURL RADIOHMS

—Controls with extruded knurled shafts that allow immediate cutting to desired length as well as fin slotting to the exact depth required. Midget switch covers may be attached.

Resistance		Type	Catalog Number	Price
Ohms	Curve			
10M	3	Plain	**NK-136**	**$1.00**
25M	4	Plain	**NK-137**	**1.00**
50M	6	Plain	**NK-138**	**1.00**
250M	6	Plain	**NK-139**	**1.00**
500M	6	Plain	**NK-140**	**1.00**
1 Meg.	6	Plain	**NK-141**	**1.00**
2 Megs.	6	Plain	**NK-142**	**1.00**
3 Megs.	6	Plain	**NK-172**	**1.00**
250M		Tapped @ 75M	**NK-173**	**1.50**
500M		Tapped @ 50M	**NK-143**	**1.50**
1 Meg.		Tapped @ 300M	**NK-144**	**1.50**
2 Megs.		Tapped @ 600M	**NK-174**	**1.50**

EXTENSION SHAFTS—For use with controls or selector switches. **K-181** (4″ x ¼″ x $\frac{1}{32}$″ flat), **K-183** (4″ x $\frac{3}{16}$″ x $\frac{1}{64}$″ flat). **Each**..**$0.30**

SHAFT COUPLERS—**K161** for coupling two ¼″ shafts or one ¼″ and one $\frac{3}{16}$″ shaft. Steel, ¾″ long, $\frac{7}{16}$″ dia. **K-184** insulating auto control type with ¼″ dia. hole for control shaft. Opposite end cone-shaped and slotted. **Each**..**$0.25**

WIRE WOUND RADIOHMS

—Standard Radiohm dimensions, wire-wound resistance strip in molded bakelite case. 3″ shaft, rated at 3 watts, linear taper only. Standard switch covers may be attached. **Each, $1.00** (**$1.50** when manufactured to salt spray specifications.)

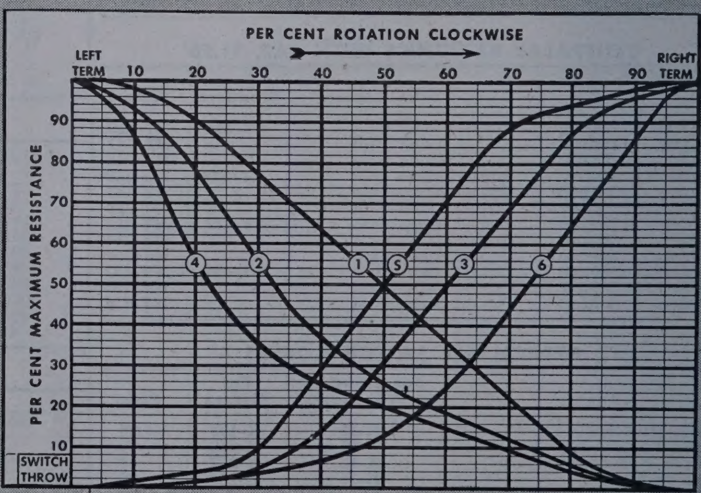
Resistance Ohms	Catalog Number	Resistance Ohms	Catalog Number
2	**V-100**	100	**V-121**
4	**V-102**	200	**V-123**
6	**V-104**	300	**V-125**
8	**V-106**	400	**V-126**
10	**V-108**	500	**V-127**
15	**V-109**	750	**V-128**
20	**V-110**	1000	**VF-129**
25	**V-111**	2000	**VF-131**
30	**V-112**	3000	**VF-133**
40	**V-114**	4000	**VF-134**
50	**V-116**	5000	**VF-135**
60	**V-117**	7500	**VF-136**
75	**V-118**	10000	**VF-137**

POWER RHEOSTATS

—Bushing ⅜″ x ½″ long, shaft ¼″ x ½″ long. 25-watt ¾″ behind panel, 50-watt 1¼″.

	Resistance, Ohms	Catalog Number	Price
25-Watt	2	**48-002**	**$2.00**
	6	**48-006**	**2.00**
	10	**48-010**	**2.00**
	15	**48-015**	**2.00**
	25	**48-026**	**2.00**
	40	**48-042**	**2.00**
	50	**48-050**	**2.00**
	100	**48-100**	**2.00**
	150	**48-150**	**2.00**
	200	**48-200**	**2.00**
	250	**48-250**	**2.00**
	300	**48-300**	**2.00**
	400	**48-400**	**2.00**
	500	**48-500**	**2.00**
	1000	**48-810**	**2.00**
	1500	**48-815**	**2.00**
	5000	**48-850**	**2.00**
50-Watt	2	**48-003**	**$2.50**
	10	**48-011**	**2.50**
	25	**48-025**	**2.50**
	60	**48-060**	**2.50**
	100	**48-101**	**2.50**
	150	**48-151**	**2.50**
	200	**48-201**	**2.50**
	300	**48-301**	**2.50**
	500	**48-501**	**2.50**
	1000	**48-811**	**2.50**
	2500	**48-835**	**2.50**
	5000	**48-851**	**2.50**

STANDARD RESISTANCE CURVES . . . Curve 1, linear taper, uniform resistance change from either end. Curve 2, right hand log taper used as "C" bias rheostat or in cases where only right and center terminals are used. Curve 3, tapered at both ends. Used where very slow resistance change from minimum volume end with smooth change from right end is required or as antenna shunt and "C" bias of 1 or 2 tubes without bleeder current. Curve 4, slow resistance change from maximum volume with short taper from left end for antenna shunt. Use where "C" bias change gives principal volume control effect. Curve 6, log curve with slow resistance change from left end. Use in audio grid or as tone control. S Curve, linear taper with uniform resistance change from either end but tapered at both ends.



CENTRALAB CRL CONTROLS

SOUND PROJECTION SERIES I —

"L" Pads that are wirewound are available in the 10 watt or 50 watt sizes and carbon types are available in the 1 watt size.

The 10 watt size has a bakelite case 3½″ diameter x 1¾″ deep in single or 3-hole mounting style.

The 50 watt size is unmounted to provide free circulation of air around the resistance units. Dimensions are 2″ dia. x 2⅞″ deep. Furnished with insulating washers for single-hole mounting.

The 1 watt size commonly used for multi-speaker installations is 1⅞″ dia. x $\frac{1}{16}$″ deep, housed in a bakelite case with one-hole mounting. Priced without knobs or dials.

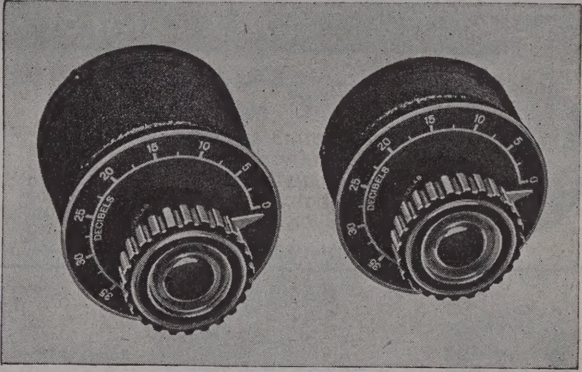
Impedance Matching Resistance	Part Numbers		
	1-watt "L" Pad $3.00	**10-watt "L" Pad $5.00**	**50-watt "L" Pad $5.00**
10,000 ohms	**75-544**		
5,000 ohms	**74-543**	**94-006**	
1,500 ohms			
500 ohms		**94-005**	
200 ohms		**94-004**	
100 ohms		**94-003**	
50 ohms		**94-002**	**47-209**
15 ohms		**94-001**	**47-208**
8 ohms		**94-007**	**47-900**

ECONOMY P/A CONTROLS — These controls are intermediate to Series II controls and older Series I types. They are designated primarily for inexpensive sound equipment including all types of fading and mixing systems, where original cost is a limiting factor. All units have metal shaft 2¼″ from end of ⅜″ bushing. Small diameter bakelite case has same dimensions as Standard Radiohm. Non-rubbing contact is for smooth, quiet operation. Limited to input applications. Maximum power rating for all units is 1-watt.

Resistance Ohms	Description	**Catalog Number**	**Price**
250M	Gain Control	**M-140**	**$1.75**
500M	Gain Control	**M-141**	**1.75**
1 Meg.	Gain Control	**M-142**	**1.75**
2 Meg.	Gain Control	**M-143**	**1.75**
500M	Straight Fader	**MT-144**	**2.00**
1 Meg.	Straight Fader	**MT-145**	**2.00**
50	"Delta-T" Pad	**MX-146**	**3.50**
200	"Delta-T Pad	**MX-147**	**3.50**
500	"Delta-T" Pad	**MX-148**	**3.50**

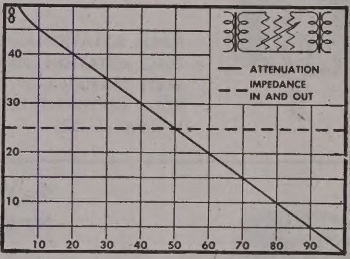
ECONOMY P/A KNOBS AND DIALS

K-120—Bar Knob, all controls	$0.15
K-117—Dial 1-10, Gain Controls and Attenuators	.15
K-160—Dial 0-5-0, Faders	.15



SOUND PROJECTION SERIES II —

These controls are adaptable to input circuits in broadcasting stations, public address systems, and recording apparatus. Curve chart shows change in impedance and attenuation plotted against clockwise rotation for "T" pad attenuator. Impedance characteristic (dotted line) is substantially the same at any setting. Attenuation curve (solid line) varies from infinity at zero rotation to zero Db. at full rotation. There is no insertion loss. Electrostatic and electro magnetic shielding is provided by a black finished steel case. All resistance elements are insulated from shaft and bushing. Features are single hole mounting and bakelite screw-type terminal strip on back of case. Mounting bushing is ¾″ long with 2 locknuts and lockwashers. Case diameter is 2¾″, depth back of panel, "T" pad 2⅜″, gain control 1⅜″. Maximum load dissipation is 1-watt. Priced with knobs and dials.



Line Impedance	Description	Resistance	Resistance Each Side of Center	**Part Number**	**Price**
500 ohms 200 ohms 50 ohms	"T" Pad Attenuator	Constant Impedance to Both Input and Output		**7-010-852** **7-010-851** **7-010-850**	**$10.00** **10.00** **10.00**
500 ohms 200 ohms 50 ohms	"T" Pad Fader	Two Constant Impedance Legs On Both Sides		**7-210-852** **7-210-851** **7-210-850**	**15.00** **15.00** **15.00**
500 ohms 200 ohms 50 ohms	"L" Pad Attenuator	Constant Impedance to One Side Only		**4-010-852** **4-010-851** **4-010-850**	**5.00** **5.00** **5.00**
Attenuation 50 Decibels for Each Control	Gain Control	250M ohms 500M ohms 1 Megohm		**1-010-852** **1-010-851** **1-010-850**	**4.00** **4.00** **4.00**
Crystal or High Impedance Pickups	Straight Fader		500,000 100,000 50,000	**1-210-852** **1-210-851** **1-210-850**	**5.00** **5.00** **5.00**

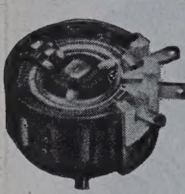
SOUND PROJECTION KNOBS AND DIALS

K-112—Dial "T" and "L" Pad, Gain Controls	$0.75
K-113—Dial "T" Pad Fader	.75
K-114—Knob All Series II Controls	.75

DeJUR U.S.A.

RHEOSTATS • • • POTENTIOMETERS

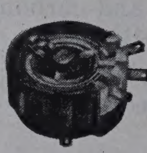
for ELECTRONIC DEVICES • RADIO TRANSMITTERS DYNAMIC VOLTAGE CONTROL • PORTABLE POWER AMPLIFIERS MOTOR CONTROL • MIXING PANELS • SPOT WELDING



50 WATT
Model 241

MECH. ROTATAION—300°
ELEC. ROTATION—270°
BODY DIAMETER—2⅜″
BODY DEPTH—1½″
WEIGHT—7 OZ.
Available with Dust Cover

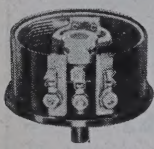
Range in Ohms
0 — 10
0 — 50
0 — 100
0 — 500
0 — 1,000
0 — 5,000
0 — 10,000



25 WATT
Model 245

MECH.. ROTATION—300°
ELEC. ROTATION—270°
BODY DIAMETER—1¾″
BODY DEPTH—1¼″
WEIGHT—4 OZ.
Available with Dust Cover

Range in Ohms
0 — 10
0 — 50
0 — 100
0 — 500
0 — 1,000
0 — 5,000
0 — 10,000

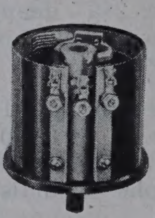


6 WATT
Model 260

MECH. ROTATION—324°
ELEC. ROTATION—300°
BODY DIAMETER—3″
BODY DEPTH—1-7/16″
WEIGHT—5 OZ.

Range in Ohms
0 — 100
0 — 500
0 — 1,000
0 — 5,000
0 — 10,000
0 — 25,000
0 — 50,000
0 — 100,000

MODEL 260T 6 Watts—With Tapped Winding. Dimensions as Model 260 — Ranges 100 — 20,000 Ohms
Available with Dust Cover



11 WATT
Model 275

MECH. ROTATION—324°
ELEC. ROTATION—300°
BODY DIAMETER—3″
BODY DEPTH—2⅝″
WEIGHT—7 OZ.

Range in Ohms
0 — 100
0 — 1,000
0 — 5,000
0 — 10,000
0 — 50,000
0 — 100,000
0 — 150,000
0 — 200,000

MODEL 275T 11 Watts — With Tapped Winding. Dimensions as Model 275—Ranges 100—20,000 Ohms ***Available with Dust Cover***

6 WATT
Model 261

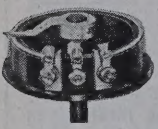
MECH. ROTATION—320°
ELEC. ROTATION—300°
BODY DIAMETER—3″
BODY DEPTH—1-7/16″
WEIGHT—5 OZ.

Range in Ohms
0 — 100
0 — 500
0 — 1,000
0 — 5,000
0 — 10,000
0 — 25,000
0 — 50,000
0 — 100,000

11 WATT
Model 276

MECH. ROTATION—324°
ELEC. ROTATION—300°
BODY DIAMETER—3″
BODY DEPTH—2⅝″
WEIGHT—7 OZ.

Range in Ohms
0 — 100
0 — 500
0 — 1,000
0 — 5,000
0 — 10,000
0 — 25,000
0 — 50,000
0 — 100,000



4 WATT
Model 281

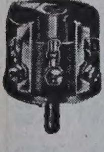
MECH. ROTATION—320°
ELEC. ROTATION—300°
BODY DIAMETER—3″
BODY DEPTH—1-3/16″
WEIGHT—5 OZ.

Range in Ohms
0 — 50
0 — 100
0 — 500
0 — 1,000
0 — 5,000
0 — 10,000
0 — 25,000
0 — 50,000

6 WATT
Model 291

MECH. ROTATION—258°
ELEC. ROTATION—258°
BODY DIAMETER—1-13/16″
BODY DEPTH—1-3/16″
WEIGHT—3.5 OZ.

Range in Ohms
0 — 5
0 — 10
0 — 100
0 — 500
0 — 1,000
0 — 5,000
0 — 10,000
0 — 20,000

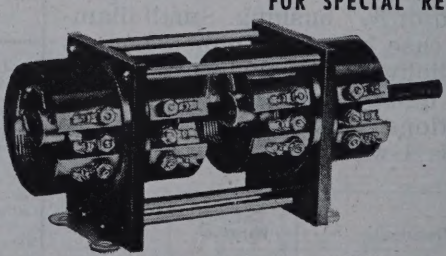


8 WATT
Model 296

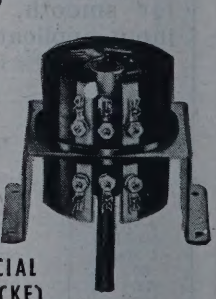
MECH. ROTATION—284°
ELEC. ROTATION—248°
BODY DIAMETER—1-13/16″
BODY DEPTH—1½″
WEIGHT—3.5 OZ.

Range in Ohms
0 — 5
0 — 10
0 — 100
0 — 500
0 — 1,000
0 — 5,000
0 — 10,000
0 — 25,000

FOR SPECIAL REQUIREMENTS



SPECIAL GANG MOUNTING



SPECIAL BRACKET FOR DUAL MOUNTING

DeJur Rheostat-Potentiometers can be furnished mounted two or more in gang assembly for simultaneous operation of several circuits or circuit components, by means of one control. Two of these applications are illustrated above and many other arrangements are feasible. Our engineers will be glad to examine your requirements.

Other resistance ranges available to your specifications . . . off-position, tapered, dual and multiple combination units can be supplied. Length of shaft, slotted metal ¼″ insulated shaft, etc., can be provided to individual requirements.

DeJUR-AMSCO CORPORATION

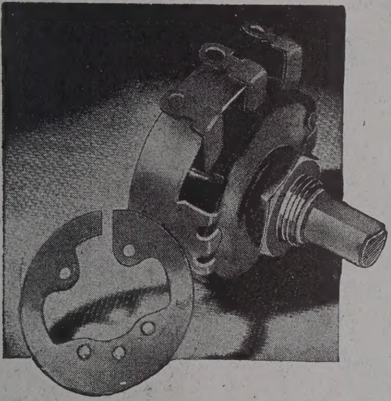
ARMY E NAVY

CLAROSTAT

Controls and Resistors

Composition-Element and Wire-Wound Volume Controls.
Power Rheostats, Tandem Rheostats, etc.
Power Resistors, Fixed and Adjustable.
T-pads, L-pads, Faders, Attenuators, etc.
Plug-in Resistors, Line-Voltage Regulators, etc.

COMPOSITION "SERIES M" CONTROLS



Compact—only 1⅛" dia. by ½" (without switch) or $\frac{13}{16}$" with switch. Permanent, stabilized element. Clarostat Series "M" Controls are provided with the handy Ad-A-Switch feature.

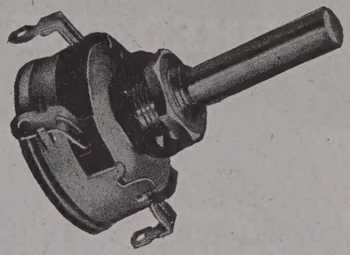
Plain metal cap readily slips off and switch member slips on in a jiffy. Choice of switches. Furnished with long shaft, lock-nut washer and hex nut.

Cat. No.	Resis.	Taper	
M-19	5,000	S	Std. Pot.
M-27	10,000	S	Std. Pot.
M-29	10,000	U	Ant. & C-1 Tube
M-30	10,000	V	C Bias Rheo.
M-37	20,000	U	Ant. & C-1 Tube
M-40	25,000	S	Std. Pot.
M-44	50,000	S	Std. Pot.
M-46	50,000	Z	Audio Grid & Tone
M-49	100,000	S	Std. Pot.
M-51	100,000	Z	Audio & Tone
M-55	250,000	S	Std. Pot.
M-58	500,000	S	Std. Pot.
M-60	500,000	Z	Audio & Tone
M-61	1,000,000	S	Std. Pot.
M-63	1,000,000	Z	Audio & Tone
M-64	250,000	Z	Audio & Tone
M-66	2,000,000	Z	Tone & AVC
M-72	25,000	V	C Bias Rheo.
M-81	10,000	Z	Ant. Shunt

List Price $1.00 Without Switch **Net Price $0.60**

All controls equipped with the original Ad-A-Switch feature

TAPPED SERIES "TCP" CONTROLS



These standard tapped controls permit replacement of tapped units with the assurance that the total resistance value and tap satisfactorily match the original.

Many uses can be found for tapped controls, such as the "diode bias" method of controlling volume where the resistance unit is used as a diode load resistor. The additional tap is used to provide an extra A.V.C. voltage of a lower value than the main A.V.C. source.

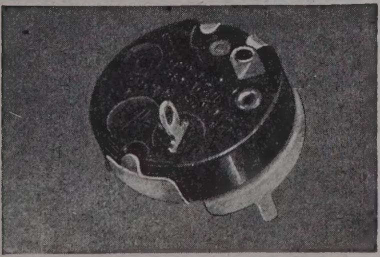
Cat. No.	Resistance	Tapped at
TCP-42	250,000	125,000
TCP-69	350,000	75,000
TCP-78	500,000	100,000
TCP-92	500,000	100,000 & 300,000
TCP-102	1,000,000	100,000 & 500,000
TCP-109	1,000,000	225,000
TCP-115	2,000,000	500,000
TCP-116	2,000,000	1,000,000
TCP-118	2,000,000	20,000
TCP-121	2,000,000	250,000 & 500,000
TCP-123	2,500,000	250,000 & 500,000
TCP-124	2,000,000	5,000 @ ¼ Rot.

LIST PRICE $1.50 **NET PRICE $0.90**

All controls equipped with the original Ad-A-Switch feature

SEPARATE SWITCHES FOR SERIES "M" AND "TCP" CONTROLS

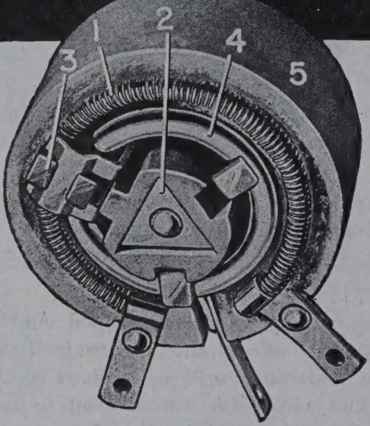
This original Ad-A-Switch feature makes it easy to convert any CLAROSTAT SERIES "M" or "TCP" Control to a switch type control



Series "A" Switch

Type		List Price	Net Price
SERIES A	Single Pole Single Throw	$0.50	$0.30
SERIES A-1	(3 Way) No "Off" Position. S.P.D.T.	.50	.30
SERIES A-2	Double Pole Single Throw	.50	.30
SERIES A-3	Three Wire (to control A, B, and C voltage)	.50	.30
SERIES A-4	Four Wire (to control A, B and C voltage)	.50	.30
SERIES A-(Rev.)	S.P.S.T. Switch (closes at full clockwise rotation)	.60	.36
SERIES A-(DL)	S.P.S.T. Switch with Dummy Lug	.60	.36

POWER RHEOSTAT



SERIES PW-25 AND PW-50

Designed for performance and durability. Constructed for extra long life at the rated current loads.

Besides giving the **maximum current at total resistance, CLAROSTAT** also gives you the **maximum current up to 1/3 total resistance.**

PW-25 and PW-50 rheostats provide for single hole mounting. **Adjustable locking pin,** provides for anchoring against rotation of rheostat when mounting to panel.

Shaft and bushing are insulated from contact carrier arm; allows for mounting on metal panel without the use of insulating washers. Resistance wire (Bare and Bright) is wound on an insulated aluminum form which is firmly imbedded into gray ceramic case with special inorganic cement.

Rheostat has 300 degrees rotation • All stock rheostats have ⅜″ bushing and ½″ shaft • Diameter 1⅝″ • Depth behind panel 1⅛″.

These power rheostats can be furnished in tandem on special order. Complete information and prices on special types can be furnished upon request.

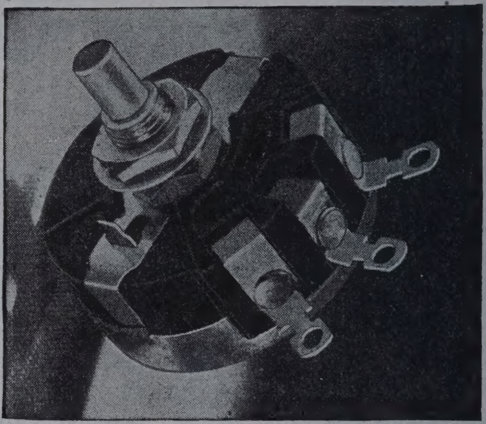
Series PW-25 Power Rheostats—25 Watt

Catalog Number	Total Resist. Ohms	List Price	Net Price
PW-25-25	25	$4.00	$2.40
PW-25-100	100	4.00	2.40
PW-25-250	250	4.00	2.40
PW-25-500	500	4.00	2.40
PW-25-1,000	1,000	4.50	2.70
PW-25-2,500	2,500	4.50	2.70

Series PW-50 Power Rheostats—50 Watt

Catalog Number	Total Resist. Ohms	List Price	Net Price
PW-50-25	25	$4.50	$2.70
PW-50-100	100	4.50	2.70
PW-50-250	250	4.50	2.70
PW-50-500	500	4.50	2.70
PW-50-1,000	1,000	4.75	2.85
PW-50-5,000	5,000	5.00	3.00
PW-50-10,000	10,000	5.00	3.00

WIRE-WOUND SERIES "58" CONTROLS



CLAROSTAT is the logical choice. Particularly so for highly critical work—in electronic equipment, delicate instruments, amplifier and gain control, etc. Selected alloy wire precisely wound on thin bakelite strip.

Perfect sliding contact by means of special alloy contact shoe, together with use of exclusive winding lubricant.

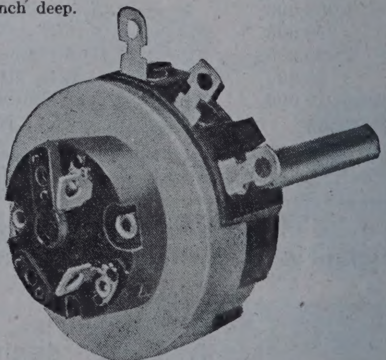
Humidity, temperature and age have but a negligible effect on these controls.

Stop to limit rotation is independent of sliding contact member, and is securely fastened to shaft. Bushing of brass. Shaft of special alloy. No tendency to "freeze" or bind.

Linear resistance controls rated at 3 watts.

Resistance	Taper		List Price	Net Price
5,000	S	Std. Pot.	$1.00	$0.60
10,000	S	Std. Pot.	1.00	.60
25,000	S	Std. Pot.	1.25	.75
50,000	S	Std. Pot.	1.25	.75
100,000*	S	Std. Pot.	2.00	1.20

*Case one inch deep.



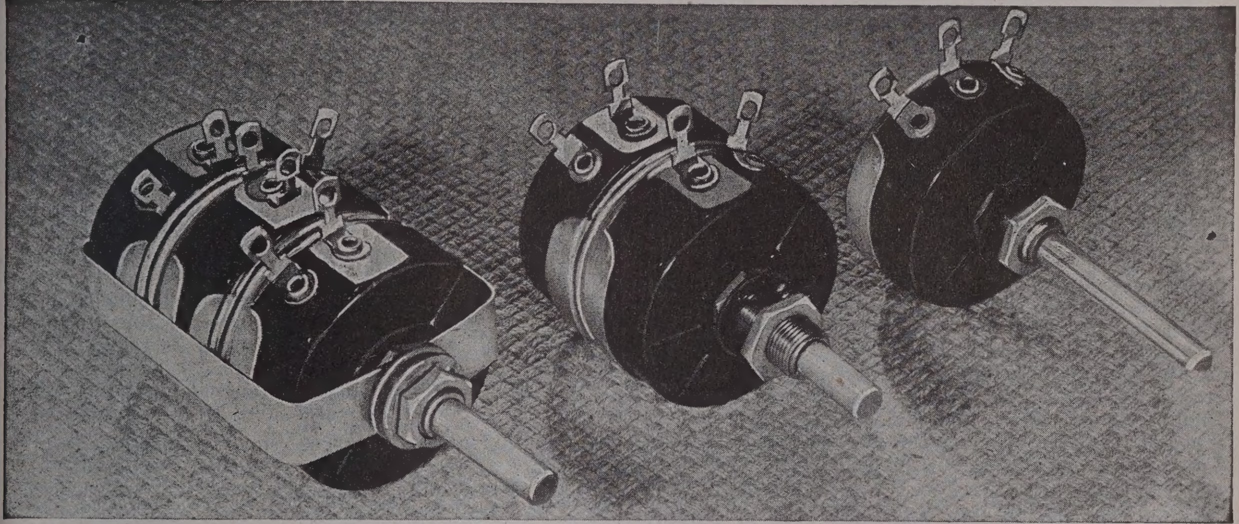
For units with power switch, WIRE WOUND SERIES "58-S" CONTROLS, same characteristic as Series "58" described above.

Resistance	Taper		List Price	Net Price
5,000	S	Std. Pot.	$1.50	$0.90
10,000	S	Std. Pot.	1.50	.90
25,000	S	Std. Pot.	1.75	1.05
50,000	S	Std. Pot.	1.75	1.05
100,000	S	Std. Pot.	2.50	1.50

CLAROSTAT

Controls and Resistors

Composition-Element and Wire-Wound Volume Controls.
Power Rheostats, Tandem Rheostats, etc.
Power Resistors, Fixed and Adjustable.
T-pads, L-pads, Faders, Attenuators, etc.
Plug-in Resistors, Line-Voltage Regulators, etc.



CONSTANT IMPEDANCE CONTROLS — "T" PADS, "L" PADS

When high quality reproduction of sound is required in public address, broadcast transmission, sound recording, projection and multiple outlet reproduction systems, care must be taken in the selection of volume controls or attenuators to eliminate distortion which arises from the mis-matching of impedances.

Volume controls or attenuators for this purpose must, therefore, be of the constant impedance type; that is, the input or output impedance, with the associated apparatus in the circuit, must remain within the limits of a required constant value.

For such requirements, Clarostat lists two types of controls, each designed for a particular usage.

Wire Wound "T" Pads

Catalog Number	Resistance	List Price	Net Price
CIT-8	8	$3.50	$2.10
CIT-15	15	3.50	2.10
CIT-200	200	3.50	2.10
CIT-500	500	3.50	2.10

Wire Wound "L" Pads

Catalog Number	Resistance	List Price	Net Price
CIL-8	8	$3.00	$1.80
CIL-15	15	3.00	1.80
CIL-200	200	3.00	1.80
CIL-500	500	3.00	1.80

UNIVERSAL METAL-TUBE RESISTORS

LIST PRICE $1.00 NET PRICE $0.60

The Universal Resistor Tube will operate any AC-DC set within the voltage ranges specified on the tube, regardless of what pilot current is drawn or any pilot lamp combination. The tube will operate regardless of pilot lamp or lamps burning out, operating well within the .3 ampere range required for the filaments of the tubes. Should pilot lamps burn out, the current will still be within range for efficient operation of tubes. Regardless of line voltage variation, the tube will operate efficiently.

Universal Tubes No.	Replaces AC-DC Tubes beginning with letters	Having numbers from	Ending in letter
10*23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10*23-E	BK, BL, K, L, M	10 to 23	E
10*23-F	BK, BL, K, L, M	10 to 23	F, G, H
23*55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23*55-E	BK, BL, K, L, M	23 to 55	E
23*55-F	BK, BL, K, L, M	23 to 55	F, G, H
60*92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60*92-E	BK, BL, K, L, M	60 to 92	E
60*92-F	BK, BL, K, L, M	60 to 92	F, G, H
92*105-A	BK, BL, K, L, M	92 to 105	A, B, C, D

STANDARD RESISTOR TUBES

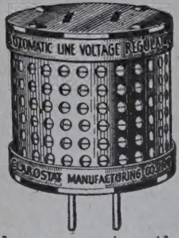
LIST PRICE $1.00 NET PRICE $0.60

Type No.	Type No.	Type No.	Type No.	Type No.	Type No.
BK-29-B	K-42-B	K-49-C	BK-49-B	BK-55-B	10-610
BK-29-D	K-42-D	K-49-D	M-49-B	L-55-B	100-37
BK-32-D	BK-42-B	K-49-H	K-55-A	BM-55-B	100-70
BK-36-D	L-42-B	L-49-D	K-55-B	K-67-BJ	100-77
BK-36-H	BL-42-B	L-49-C	K-55-C	K-80-B	K-26J-218
K-36-D	BL-42-D	L-49-B	K-55-D	K-90-B	M-86892-9
K-42-A	K-49-A	L-49-D	K-55-H	K-92-B	5459

CLAROSTAT Controls and Resistors

Composition-Element and Wire-Wound Volume Controls.
Power Rheostats, Tandem Rheostats, etc.
Power Resistors, Fixed and Adjustable.
T-pads, L-pads, Faders, Attenuators, etc.
Plug-in Resistors, Line-Voltage Regulators, etc.

AUTOMATIC LINE VOLTAGE REGULATORS


AUTOMATIC LINE VOLTAGE REGULATOR
CLAROSTAT MANUFACTURING CO INC

Designed for use with 110-volt socket power radio sets not equipped for line ballasts. At 110 volts, the resistance of the units is low and the voltage drop across them is negligible. As the line voltage increases, however, the resistance of the units increases with a consequent increase in voltage drop across them, keeping the voltage across the primary of the power transformer of the set practically constant, even though the line voltage may increase up to 140 volts.

To install this unit, all that is necessary is to insert the usual attachment plug of the radio set into the slots provided in the top. Then insert the prongs of the unit into the slots of the usual screw type plug or convenience outlet of the electric light system.

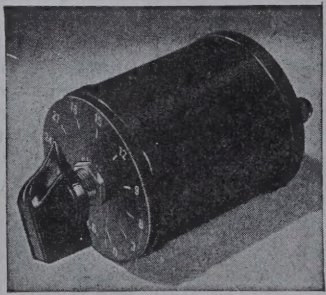
LIST PRICE $1.00 **NET PRICE $0.60**

Dimensions are 1¾″ in diameter, 1½″ in length; prongs are ⅝″ long.

Type No.	Rating Watts	Sets Consuming For Use With	Tubes Used No. of
O	50	Up to 60 Watts	4
A	100	60 to 100 Watts	5, 6, 7
B	150	100 to 150 Watts	8, 9, 10
C	200	150 to 200 Watts	1, 12
D	250	200 to 250 Watts	2 Type 50
E*	100	60 to 100 Watts	

*Note: For use with 120 volt recevers.

CONSTANT IMPEDANCE OUTPUT ATTENUATOR Series CIB—10 Watts



A compact, inexpensive unit that will dissipate 10 watts in any position. Operates noiselessly without distortion. Recommended as an individual loudspeaker control.

Linear attenuation in 3 db steps up to 30 db and then final step to infinity. Insertion loss is zero. DB steps are 3 db, 6 db, 9 db, 12 db, 15 db, 18 db, 21 db, 24 db; a step of 6 db making total of 30 db.

Unit measures 2″ in diameter and 2¾″ long.

1 hole mounting ⅜″ bushing, shaft, 1″ length.

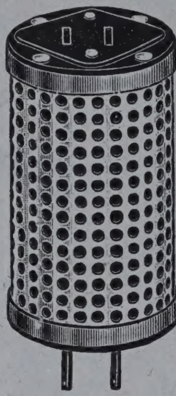
Standard Impedances Available

8 ohms, 15 ohms, 50 ohms, 200 ohms, 250 ohms, 500 ohms.

Unit not equipped for switch; furnished with dial plate and knob.

NET PRICE: $6.50

CLAROSTAT REPLACEMENT LINE BALLASTS



Designed to meet the requirements of the old type receivers listed. These receivers have been designed to include a Line Ballast and are provided with sockets into which the Clarostat Line Ballasts can be inserted.

Clarostat Line Ballasts will maintain the normal voltage across the primary of the power transformers of these sets within the allowable limits for efficient operation in spite of line voltage fluctuations over a range from 95 to 135 volts.

The body dimensions are 1¾″ in diameter and 3⅛″ in length.

	Cat. No.
Grebe	
SK-4 138 Volts	6420
SK-4 115 Volts	6412
Majestic, 60 Cycle	
70-71 Power Pack 7P6, 1928	1516
Power Pack 7BP6, 1929	1508
180-181 Power Pack 8P6	1012
90-91-92-100	1210
Stewart Warner	
900	5001
950	5002
R-100	5003

LIST PRICE $1.75 **NET PRICE $1.05**

STANDARD PACKING

	Per Carton
Series "M" Potentiometers	10
Series "TCP" Potentiometers	10
"A" Switches	Individual
Type CA—	
10 Watt Power Res.	10
25 Watt Power Res.	Individual
50 Watt Power Res.	"
PW-25 Watt Power Rheostats	"
PW-25 Watt Power Rheostats	"
Type 58 Wire Wound Controls	10
Type 10C "Greenohms"	10
Type 20C "Greenohms"	5
Automatic Line Voltage Regulators	10
Automatic Replacement Ballets	10
Series "CIB" Attenuators	Individual
"T" and "L" Pads	"
Metal Tube Resistors	10
Type FYG Glasohms	10
Power Decade	Individual

CLAROSTAT

Controls and Resistors

Composition-Element and
Wire-Wound Volume Controls.

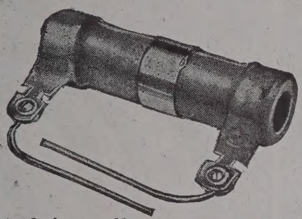
Power Rheostats, Tandem
Rheostats, etc.

Power Resistors, Fixed
and Adjustable.

T-pads, L-pads, Faders,
Attenuators, etc.

Plug-in Resistors, Line-
Voltage Regulators, etc.

"The Famous Greenohms"
WIRE-WOUND FIXED POWER RESISTORS



Only after studying all types of available power resistors, analyzing their advantages and drawbacks alike, have Clarostat engineers felt justified in presenting this line. It will be found to answer the demand for more rugged resistors for exceptionally severe service.

These units are manufactured and rated strictly in accordance with R. M. A. Standards and will operate at full wattage rating. Construction and conservative ratings make them the ideal replacement power resistors in radio servicing, and in broadcast and amateur service. Also ideal for electrical and industrial applications.

10 Watts Size—Type 10 C

(Cement)—1¾″ x 5/16″

Resis Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	200	2,250	10,000
2	250	2,500	11,000
3	300	3,000	12,000
5	350	3,500	12,500
7.5	400	4,000	15,000
10	500	4,500	20,000
15	600	5,000	25,000
20	750	6,000	30,000
25	800	7,000	35,000
50	1,000	7,500	40,000
75	1,250	8,000	50,000
100	1,500	8,500	
150	2,000	9,000	

LIST PRICE $0.40 EA. **NET PRICE $0.24 EA.**

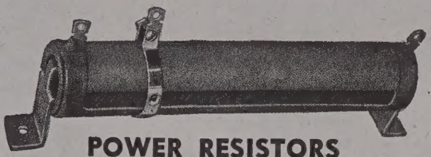
20 Watts Size—Type 20 C

(Cement)—2″ x $\frac{9}{16}$″

Resis Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	400	2,750	12,500
5	500	3,000	15,000
10	750	3,500	20,000
25	800	4,000	25,000
50	1,000	4,500	30,000
75	1,200	5,000	35,000
100	1,250	6,000	40,000
150	1,500	7,000	50,000
200	1,750	7,500	60,000
250	2,000	8,000	70,000
300	2,250	9,000	80,000
350	2,500	10,000	100,000

	List Price	Net Price
1 ohm to 15,000 ohms	$0.65	**$0.39**
20,000 ohms to 50,000 ohms	.75	**.45**
60,000 ohms to 100,000 ohms	1.00	**.60**

"The Famous Greenohms"
WIRE-WOUND ADJUSTABLE



POWER RESISTORS

Adjustment of the slider to the proper resistance is easily made by loosening the screw and setting to the proper point. The cement covering prevents mechanical injury to the wire and eliminates the possibility of the wire winding shifting.

10 Watt Size—Type 10CA

1¾″ x 5/16″—No Brackets Furnished

Resis.	Resis.	Resis.	Resis.
1	75	750	3,500
2	100	800	4,000
3	150	1,000	4,500
5	200	1,250	5,000
7.5	250	1,450	6,000
10	300	1,500	7,000
15	350	2,000	8,000
20	400	2,250	9,000
25	500	2,500	10,000
50	600	3,000	

LIST PRICE $0.60 EA. **NET PRICE $0.36 EA.**

Exerta Sliders (packed in individual boxes)

List Price $0.10 each **Net Price $0.06 each**

25 Watt Size—Type 25 CA

2½″ x $\frac{9}{16}$″—Brackets Furnished

Resis.	Resis.	Resis.	Resis.
1	150	1,250	6,000
3	200	1,500	7,500
5	250	2,000	8,000
10	300	2,250	9,000
15	400	2,500	10,000
25	500	3,000	12,000
50	750	3,500	15,000
75	800	4,000	20,000
100	1,000	5,000	25,000

Resis.	Resis.	Resis.	Resis.
1 to	5,000 ohms	$0.85	**$0.51**
6,000 to	15,000 ohms	.95	**.57**
20,000 to	25,000 ohms	1.10	**.66**

Extra Sliders (packed in individual boxes)

50 Watt Size—Type 50 CA

4½″ x ¾″—Brackets Furnished

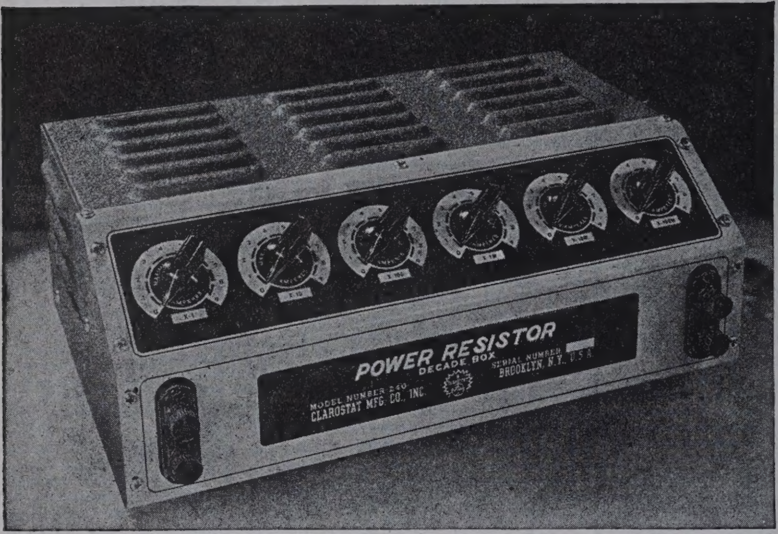
Resis.	Resis.	Resis.	Resis.
5	300	2,500	15,000
10	400	3,000	20,000
25	500	4,000	25,000
50	750	5,000	30,000
75	800	6,000	40,000
100	1,000	7,500	50,000
150	1,250	8,000	60,000
200	1,500	10,000	75,000
250	2,000	12,000	100,000

	List Price	Net Price
5 to 5,000 ohms	$1.25	**$0.81**
6,000 to 25,000 ohms	1.50	**.90**
30,000 to 50,000 ohms	1.70	**1.02**
60,000 to 100,000 ohms	2.00	**1.20**
Extra Slides (packed individual boxes)	.10	**.06**

CLAROSTAT

Controls and Resistors

Composition-Element and Wire-Wound Volume Controls.
Power Rheostats, Tandem Rheostats, etc.
Power Resistors, Fixed and Adjustable.
T-pads, L-pads, Faders, Attenuators, etc.
Plug-in Resistors, Line-Voltage Regulators, etc.



POWER RESISTOR DECADE BOX

Intended primarily for laboratory use and development work generally—simplifies and expedites selection of correct resistance values Many of these instruments are now being used in laboratories, engineering offices, plants, maintenance and service departments, and in schools.

Application: When accurately predetermined steps of resistance value are desired, as in calibrating or testing operations, in bridge circuits or experimental work, the Clarostat Power Resistor Decade Box provides a ready means for obtaining exactly the resistance value desired, under actual operating conditions.

Instead of lengthy mathematical calculations—with the usual guessing included—the power resistor decade box permits of trying out the actual resistance values.

Resistance Range: 1 ohm to 999,999 ohms in steps of 1 ohm.

Tolerance:

Decade No. 1	5%	Decade No. 4	2%
Decade No. 2	2%	Decade No. 5	2%
Decade No. 3	2%	Decade No. 6	2%

Power Rating: Each decade will dissipate 225 watts at a maximum of 1000 volts. A grille at bottom and louvres at sides and top provide adequate ventilation for heat dissipated by the resistors under load.

Resistance Elements: Clarostat "Greenohm" resistors are used throughout. Cement-coated power wire-wound resistors, wound with bare and bright special alloy resistance wire on non-hygroscopic ceramic tubes. Resistors mounted on rigid metal supports.

Finish: The heavy gauge metal case of the decade box is finished in frosted gray wrinkle, with etched black and aluminum front panel. Baffle plate protects the switch assembly from the heat.

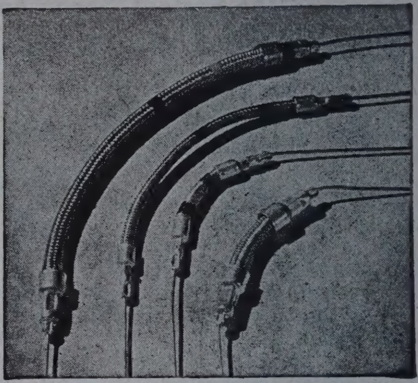
Dimensions: 13″ long, 8½″ deep, 5¾″ high; weight 11 lbs.

Suggested Uses: Resistance Determination—Load Resistance—Meter Multiplier—Calibrating Meters.

Maximum Current Rating: Per Decade:

No. 1	5 Amp.	No. 4	.15 Amp.
No. 2	1.5 Amp.	No. 5	.05 Amp.
No. 3	.5 Amp.	No. 6	.005 Amp.

NET PRICE $70.00



GLASOHMS* — FIBRE-GLASS RESISTORS

Clarostat Glasohms or fibre-glass power resistors are now available through the jobbing trade, in standard units to meet popular requirements.

Especially desirable in point-to-point wiring jobs where a handy, inexpensive, stable wire-wound resistor is required. Self-supporting. Bare wire terminals. Also ideal for building step-by-step rheostat or resistance box, attenuators, instruments in general, voltage-dropping banks and voltage dividers, etc.

Glasohms can be used as small heating elements for such applications as soldering irons, hair curlers, oscillating crystal oven heaters, etc. Unit can be wrapped closely around metal to be heated, or packed into tightly-fitting case. Contact with metal members, for greatest thermal efficiency.

Standard Glasohm Resistors

Type FYG—2 Watt
1″ Fabric Length with 2″ Pigtails
⅛″ Dia. Core—RMA Color Coded

Type No.	Ohms	Type No.	Ohms
FYG5	5	FYG375	375
FYG10	10	FYG400	400
FYG15	15	FYG500	500
FYG25	25	FYG600	600
FYG40	40	FYG700	700
FYG50	50	FYG750	750
FYG60	60	FYG800	800
FYG75	75	FYG850	850
FYG100	100	FYG900	900
FYG125	125	FYG1000	1000
FYG150	150	FYG1250	1250
FYG200	200	FYG1500	1500
FYG225	225	FYG1600	1600
FYG250	250	FYG1750	1750
FYG300	300	FYG2000	2000
FYG350	350		

LIST $0.25 EA. **NET $0.15 EA.**

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*Regstereid Trade Mark.

IRC PRESENTS

A STREAMLINED WARTIME LINE

TO SPEED CRITICAL CIVILIAN SERVICING

Every IRC item cataloged on the following pages has been carefully selected with the welfare of the servicemen uppermost in mind.

While current critical material shortages and restrictions make it impossible to manufacture all of the IRC prewar products, this new compact line is a common sense answer to your service needs.

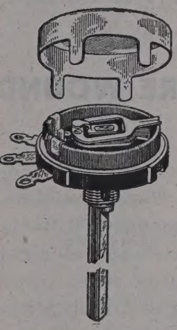
The IRC "Streamline" Line gives you:

1. BETTER DELIVERY—By concentrating any available production on a few selected products IRC expects to provide more resistors and volume controls to the servicemen than at any time previously during the war.

2. MORE UNIVERSAL USE—The products listed have been carefully chosen because they may be used satisfactorily to service a wide variety of radio sets. Universal application means more satisfied customers—quicker servicing—more profits for you.

PREFERRED FOR PERFORMANCE
IRC
FIXED & VARIABLE RESISTORS

Type W Wire Wound Controls



A dependable wire wound control of uniform resistance change for power requirements up to 2 watts. Tight, uniform windings assure utmost accuracy. Spiral Spring Connector between rotor arm and center terminal eliminates noise. Diameter 1¼"; depth behind panel 9/16"; shaft length 2 15/16" from control face. Illustration shows cover removed, although covers are supplied with controls. Includes new IRC Control Tag.

List without switch, $1.00; **Net 60c**

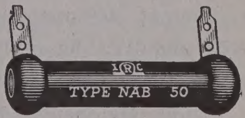
IRC Control No.	Resistance Ohms	Max. Current (Amps.)
W-2	2	1.000
W-3	3	.815
W-5	5	.630
W-6	6	.560
W-8	8	.500
W-10	10	.450
W-15	15	.370
W-20	20	.320
W-25	25	.285
W-30	30	.260
W-40	40	.225
W-50	50	.200
W-60	60	.183
W-75	75	.164
W-100	100	.142
W-200	200	.100
W-300	300	.083
W-400	400	.071
W-500	500	.063
W-750	750	.052
W-1000	1000	.045
W-2000	2000	.032
W-3000	3000	.026
W-4000	4000	.022
W-5000	5000	.020
W-7500	7500	.016
W-10000	10000	.014

Type W Switches

For Type W Controls

	List	Net
No. 51—S. P., S. T.	$0.50	$0.30
No. 52—D. P., S. T.	.60	.36
No. 53—S. P., D. T.	.60	.36
No. 54—Three Point	.60	.36
No. 55—Four Point	.60	.36
No. 56—S. P., D. T., at clockwise position	.60	.36
No. 57—S. P., S. T., with dummy lug	.60	.36

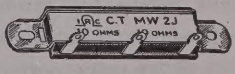
Type NAB Parasitic Suppressors



IRC Type NAB Non-Inductive Wire Wound Resistors are designed for use, one in each grid of audio driver or power amplifier tubes when paralleled, to prevent parasitic oscillations. 10 watts.

Type NAB—50 ohms. List 90c each. **Net 54c each**

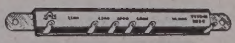
Center Tap Insulated Wire Wounds



Completely enclosed in molded bakelite and capable of standing high temperatures. Due to high power rating, these resistors may be used in balancing circuits for radio receivers or transmitters. They will carry up to five watts if mounted on chassis, using the detachable mounting bracket and heat-dissipating metal strip; or two and one-half watts if mounted in open air. May be mounted anywhere without danger to units from heat or grounding. **Dimensions:** Length of molded unit 2". With bracket mounting centers 2½". Six standard ranges: 10 ohms, 20 ohms, 50 ohms, 75 ohms, 100 ohms and 200 ohms.

Type MW-2J—Center Tap Resistors. List 35c each. **Net 21c each.**

Bleeder Resistor



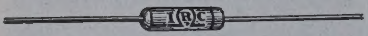
Type M-1034—25,000 ohms, overall resistance, tapped at 7,500, 10,000, 12,500 and 15,000 ohms. 18 watts rating attached flat to chassis, 9 watts free air rating. Used as bleeder in any power supply up to 500 volts. Sealed in bakelite and insulated for 1,000 volts to ground. Bracket supplied.

M-1034—IRC Bleeder Resistor. List $1.25 each. **Net 75c each.**

INSULATED RESISTORS

Preferred for Performance

NEW!... IMPROVED TYPES



NEW!

Type BTS Insulated *Metallized* Resistor (½ Watt)

40% shorter in length!
1/3 smaller in diameter!

$\frac{13}{32}$″ x ⅛″—470 ohms to 22 megohms. 350 volts maximum.

List 13c each, Net 8c each

Type BT-2 Insulated *Metallized* 2-Watt Resistor

An industry favorite for dependability!

1¾″ x $\frac{21}{64}$″—470 ohms to 22 megohms. 500 volts maximum.

List 25c each, Net 15c each

NEW!

Type BTA Insulated *Metallized* Resistor (1 Watt)

42% shorter!
A real space saver!

$\frac{23}{32}$″ x ¼″—330 ohms to 22 megohms. 500 volts maximum.

List 17c each, Net 10c each

AMERICAN WAR STANDARD QUALITY IN BT RESISTORS

For years famous "Metallized" BT resistors have been the standard of the industry and are used by our Army and Navy in all types of electronic war equipment. Although much smaller in size, the new BTS and BTA have all the excellent characteristics of the former Types BT-½ and BT-1.

Completely insulated with bakelite, Type BT Resistors are unexcelled in such essential characteristics as stability, low-noise level, low voltage coefficient, mechanical strength, moisture-proof protection and insulation. Insulation breakdown voltage of Type BTS is 750 volts to ground; all other BT's, 1000 volts. Standard tolerance ±10%. Special ±5% tolerance at higher cost.

TYPE BW INSULATED WIRE WOUND RESISTORS

New low prices on BT resistors also extend to include the Insulated Wire Wound BW units. These resistors, furnished with same insulation as famous BT Resistors, are constructed with wire resistance element wound tightly around special insulated core. Unexcelled for jobs such as meter shunts and multipliers (where precision is not a factor); cathode biasing, decoupling, series air cell battery use. Standard tolerance ±10%. Special ±5% tolerance available at higher cost.

BW-½—½ WATT

⅝″ x $\frac{3}{16}$″. 0.47 to 820 ohms. List 15c ea. **Net 9c ea.**

BW-1—1 WATT

1¼″ x ¼″. 0.47 to 4,700 ohms. List 17c ea. **Net 10c ea.**

BW-2—2 WATTS

1¾″ x $\frac{21}{64}$″. 1.0 to 6,800 ohms. List 25c ea. **Net 15c ea.**

NEW!... LOWER PRICES

New mass production methods applied to the manufacture, stocking and packaging of Types BT and BW Resistors for servicemen makes possible new lower prices on these types. This price reduction is consistent with IRC's progressive policy of offering, at all times, the best values on the market.

INSULATED RESISTORS

Preferred for Performance

IRC

NOW!...RMA RANGES

Standardizations pays dividends! It has proved its worth on both the fighting fronts and the home front. It can be an important profit factor for you, too.

The great majority of manufacturers were quick to see the advantages in standardization and adopted the RMA Preferred Ranges some years ago. IRC has pioneered standardization of resistors because close contact with the radio industry has convinced us that such standardization is not only desirable but **absolutely** essential to carry out the tremendous postwar development and production program of the industry.

This new IRC policy will speed service during the War and help servicemen prepare for better, faster and more profitable business after the War.

Type BT and BW Resistors, in 10% tolerance, are carried in stock in the RMA ranges listed below. Figures in heavy type are the standard RMA 10% tolerance values. Using 10% tolerance BT's and BW's, these 93 ranges give complete coverage of all values with the smallest resistor stock. Standardization of your stock on these values is recommended for economical, complete coverage, faster turnover . . . more profit for you!

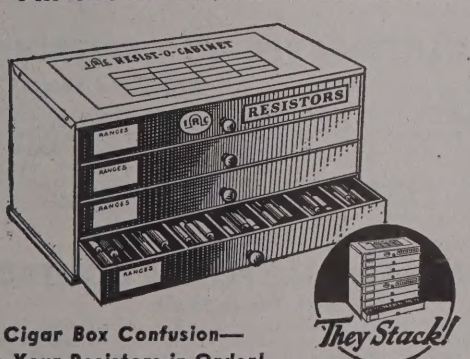
However, the intermediate values listed below also are carried in the IRC stockroom, so that every RMA value is available to servicemen when desired.

JOBBERS' STOCK IN PREFERRED RMA RANGES

Subject to the minimum and maximum values for each of the various types of BT and BW Resistors.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
0.47	3.0	**18**	110	**680**	4,300	**27,000**	**0.1**	0.62	**3.9**
0.51	**3.3**	20	**120**	750	**4,700**	30,000	0.11	**0.68**	4.3
0.56	3.6	**22**	130	**820**	5,109	**33,000**	**0.12**	0.75	**4.7**
0.62	**3.9**	24	**150**	910	**5,600**	36,000	0.13	**0.82**	5.1
0.68	4.3	**27**	160	**1,000**	6,200	**39,000**	**0.15**	0.91	**5.6**
0.75	**4.7**	30	**180**	1,100	**6,800**	43,000	0.16	**1.0**	6.2
0.82	5.1	**33**	200	**1,200**	7,500	**47,000**	**0.18**	1.1	**6.8**
0.91	**5.6**	36	**220**	1,300	**8,200**	51,000	0.20	**1.2**	7.5
1.0	6.2	**39**	240	**1,500**	9,100	**56,000**	**0.22**	1.3	**8.2**
1.1	**6.8**	43	**270**	1,600	**10,000**	62,000	0.24	**1.5**	9.1
1.2	7.5	**47**	300	**1,800**	11,000	**68,000**	**0.27**	1.6	**10.0**
1.3	**8.2**	51	**330**	2,000	**12,000**	75,000	0.30	**1.8**	11.0
1.5	9.1	**56**	360	**2,200**	13,000	**82,000**	**0.33**	2.0	**12.0**
1.6	**10**	62	**390**	2,400	**15,000**	91,000	0.36	**2.2**	13.0
1.8	11	**68**	430	**2,700**	16,000		**0.39**	2.4	**15.0**
2.0	**12**	75	**470**	3,000	**18,000**		0.43	**2.7**	16.0
2.2	13	**82**	510	**3,300**	20,000		**0.47**	3.0	**18.0**
2.4	**15**	91	**560**	3,600	**22,000**		0.51	**3.3**	20.0
2.7	16	**100**	620	**3,900**	24,000		**0.56**	3.6	**22.0**

All Metal RESIST-O-CABINET



End Cigar Box Confusion— Keep Your Resistors in Order!

The sturdy, all-metal IRC Resist-O-Cabinet is specifically designed to hold resistors systematically and safely without the bending of leads. It puts an end to "cigar box confusion!" Its four "non-spill" drawers have seven ample-sized compartments in each which readily accommodate resistor sizes from ½ to 10 watts.

Attractively finished in blue, yellow and silver. Ohm's Law formulas neatly and permanently lithographed on top of cabinet for handy reference. Cabinet measures 11" long, 5½" high and 5½" deep. Bases of Resisto-O-Cabinets are arranged for stacking so that several cabinets may be used to increase stock capacity. This handy Resist-O-Cabinet is FREE with the purchase of any of the three well-balanced IRC resistor assortments listed. (Cabinet is not sold empty.)

ASSORTMENT No. 1—59 Resistors

Type BTS—One each 1,000, 4,700, 10,000, 27,000, 47,000 ohms; 0.1 meg, 0.27, 0.47 megs.
Type BTA—One each 39,000, 68,000 ohms; 0.15, 0.22 megs. Two each 1,000, 1,500, 2,200, 2,700, 4,700, 15,000, 27,000 ohms; 1.0, 2.2 megs. Three each 10,000, 47,000 ohms; 0.1 meg, 0.27, 0.47 megs.
Type AB 10 Watt—One each 1,000, 1,500, 2,500, 5,000 ohms. **Two each 10,000, 15,000 and 25,000 ohms.**
Type ABA, 10 Watt Adjustable—One each 1,000, 2,500, 5,000, 10,000.
List price of Resistors, $15.03. **Net Price $9.02** (Cabinet Free)

ASSORTMENT No. 2—100 Resistors

Type BW-½—Two each 47, 100, 270 ohms.

Type BTS—Two each 3,300, 6,800, 33,000, 68,000, 82,000 ohms; 0.22, 0.33 megs. Three each 470, 1,500, 15,000, 22,000, 39,000 ohms; 0.15, 1.0, 2.2 megs. Five each 2,200, 2,700, 27,000 ohms; 0.27 megs. Six each 1,000, 4,700, 10,000, 47,000 ohms; 0.1, 0.47 megs.

List price of Resistors, $13.12. **Net Price $7.87** (Cabinet Free)

ASSORTMENT No. 3—83 Resistors

Type BW-1—Two each 47, 100, 270 ohms.
TYPE BTA—Two each 470, 1,500, 2,700, 3,300, 6,800, 33,000 39,000, 68,000, 82,000 ohms; 0.15, 0.22, 0.33, 1.0, 2.2 megs. Three each 15,000, 22,000, 27,000 ohms. Five each 1,000, 2,200, 4,700, 10,000, 47,000 ohms; 0.1, 0.27, 0.47 megs.
List price of Resistors, $14.11. **Net Price $8.47** (Cabinet Free)

IRC Resistor Color Code Chart

This new IRC Standard RMA Resistor Code Chart (handy 3" x 5" size) includes both old and new style codes, tolerance designation, ruler and the various Ohm's Law formulas—all on a handy, pocket-size Pyrolin card. **5 cents Net** or **FREE** with purchase of 5 IRC Resistors.

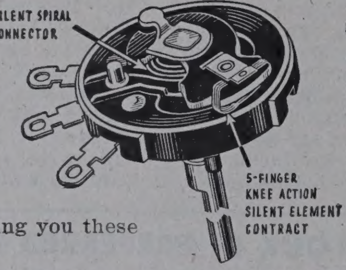
IRC VOLUME CONTROLS

Preferred for Performance

NEW!...THE "CENTURY" LINE

100 IRC CONTROLS FOR UNIVERSAL SERVICE

You can buy no better engineered—more dependable controls for your service needs than the IRC Type D. These universal precision units are small enough to fit most anywhere, husky enough to replace much more cumbersome, bulky types and embody all the features that make for satisfaction on the job. Only IRC controls bring you these four outstanding quality features:



1. METALLIZED ELEMENT—harder, smoother, moisture-proof, permanent.
2. FIVE FINGER CONTACTOR—assures positive, more uniform contact.
3. SILENT SPIRAL CONNECTOR—a positive connection between contactor and its terminal.
4. STEEL COIL SPRING THRUST WASHER—eliminates shaft wobble and end-play.

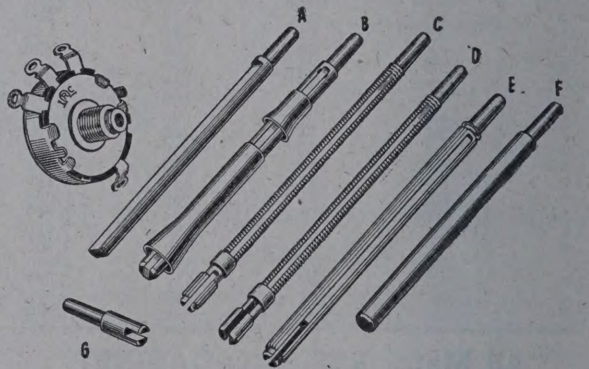
56 UNIVERSAL TYPE D CONTROLS

For miscellaneous service needs, 56 all-purpose controls are available for use with the popular IRC tap-in shafts. An A shaft is included with each control and shafts B, C, D, E, F and G may be had at slight extra cost as needs require.

Each D Control accommodates any of the seven Tap-in Shaft types shown. Shaft flats may be located in any position. A few extra shafts greatly increase the utility of your D Control stock at a small investment. Of unusual convenience is the "Double-Flatted" A shaft, included with each D Control. Accommodates popular push-on knobs requiring either $\frac{1}{32}$″ or $\frac{3}{32}$″ flats and all set-screw knobs without filing of shaft or use of inserts. Dimensions: 1⅛″ x $\frac{17}{32}$″.

Single Control—Without switch ....List $1.00 **Net $0.60**
Tapped Controls—Without switch ....List 1.50 **Net .90**

Prices include Shaft A packed with each control

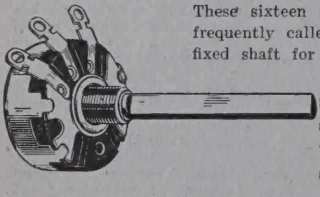


Easily Installed "Tap-in" Shafts

Type B—List $0.35, Net $0.21
Types C, D, E, F, G—List $0.25, Net $0.15

16 POPULAR DS TYPES

With Fixed Shafts

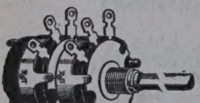


These sixteen numbers have been the most frequently called for and are furnished with fixed shaft for convenient, easy use. Dimensions: 1⅛″ x $\frac{17}{32}$″.

Single Control—Without switch, List $1.00, Net $0.60

Tapped Controls—Without switch, List $1.50, Net $0.90

7 DUAL CONTROLS

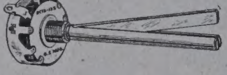


Seven popular Dual Controls are included in IRC's new Century Line. Here is a small but carefully selected group of "duals" that will speed many an important repair job! Standard No. 20 series switches can be attached. 1¼″ x 1¼″.

List price $2.50 each, Net $1.50 each

8 CLUTCH-TYPE DC CONTROLS

With Fixed Shafts



Practical for auto radio use and many other applications. Controls have friction clutch drive-arm and are equipped with a special shaft for use where either a slotted or tongued type shaft is required. Instructions tell how to cut shaft for either application. **Switches cannot be used with friction clutch controls.** Size same as Type D.

List Price $1.50 each, Net $0..90 each

2 TYPE S SPECIAL POWER CONTROLS

With Tap-in Shafts

Designed for power requirements of plate circuit tone controls, Type S Controls should be used where the audio output exceeds 2 watts. 1¼″ in diameter, they employ the Tap-in Shaft feature. Use No. 20 series switches listed on the following page.

List price $1.00 each, Net $0.60 each

11 TYPE J CONTROLS for SPECIAL APPLICATIONS

For a wide variety of sets with specific requirements, you'll find these eleven numbers extremely useful. To play safe your stock should include at least one of each. (See list of Type J Controls, uses and prices on Page L-16.)

THESE 100 CONTROLS TAKE CARE OF OVER 90% OF YOUR SERVICE REQUIREMENTS

VOLUME CONTROLS

Preferred for Performance

IRC

IRC "100" ALL-PURPOSE VOLUME CONTROLS

56 UNIVERSAL TYPE CONTROLS WITH "TAP-IN" SHAFTS

Resistance Ohms	Tap	I R C Stock No.	Taper	Usual Application
500	—	**D11-103**	A	Potentiometer Voltage Divider
1M	—	**D11-108**	A	Potentiometer Voltage Divider
2M	—	**D11-110**	A	Potentiometer Voltage Divider
3M	—	**D11-112**	A	Potentiometer Voltage Divider
4M	—	**D11-113**	A	Potentiometer Voltage Divider
5M	—	**D11-114**	A	Potentiometer Voltage Divider
5M	—	**D13-114**	C	Antenna Control
5M	—	**D14-114**	D	*Antenna C Bias Control
7,500	—	**D11-115**	A	Potentiometer Voltage Divider
10M	—	**D11-116**	A	*Antenna Grid Bias Control
10M	—	**D13-116**	C	Antenna Control
10M	—	**D14-116**	D	*Antenna Grid Bias of 2 Tubes
10M	—	**D16-116**	F	*Antenna Grid Bias of 1 Tube
15M	—	**D14-118**	D	*Antenna Grid Bias Control
15M	—	**D16-118**	F	*Antenna Grid Bias Control
20M	—	**D16-119**	F	*Antenna Grid Bias Control
25M	—	**D11-120**	A	Potentiometer Voltage Divider
25M	—	**D14-120**	D	*Grid Bias Control
25M	—	**D16-120**	F	Antenna Control
50M	—	**D11-123**	A	Potentiometer Voltage Divider
50M	—	**D13-123**	C	Tone Control
50M	—	**D14-123**	D	*Antenna Grid Bias Control
75M	—	**D13-125**	C	Tone Control
75M	—	**D14-125**	D	*Grid Bias Control
100M	—	**D11-128**	A	Potentiometer Voltage Divider
100M	—	**D13-128**	C	Tone or Audio Circuit Control
200M	—	**D11-129**	A	Potentiometer Voltage Divider
200M	—	**D14-129**	D	*Grid Bias Control
250M	—	**D11-130**	A	Potentiometer Voltage Divider
250M	—	**D13-130**	C	Tone or Audio Circuit Control
250M	125M	**D13-130X**	Spec.	Audio Control with A.V.C. Tap
250M	—	**D14-130**	D	*Grid Bias Control
250M	60M	**D18-130X**	H	Audio Control with Tone Tap
350M	—	**D13-132**	C	Tone or Audio Circuit Control
350M	75M	**D18-132X**	H	Audio Control with Tone Tap
500M	—	**D11-133**	A	Potentiometer Voltage Divider
500M	—	**D13-133**	C	Tone or Audio Circuit Control
500M	125M	**D13-133X**	H	Audio Control with Tone Tap
500M	—	**D14-133**	D	R.F. Plate Control
500M	50M	**D18-133X**	Spec.	Audio Control with Tone Tap
1.0 meg.	—	**D11-137**	A	Potentiometer Voltage Divider
1.0 meg.	—	**D13-137**	C	Tone or Audio Circuit Control
1.0 meg.	250M	**D13-137X**	H	Audio Control with Tone Tap
1.0 meg.	35M	**D17-137X**	Spec.	Audio Control with Tone Tap
1.0 meg.	500M	**D18-137X**	Spec.	Audio Control with Tone Tap
1.0 meg.	100M	**D19-137X**	Spec.	Audio Control with Tone Tap
1.0 meg.	500M	**DVC-539X**	Spec.	Fader control for fading one circuit into another
2.0 meg.	—	**D13-139**	C	Tone or Audio Circuit Control
2.0 meg.	500M	**D13-139X**	H	Audio Control with Tone Tap
2.0 meg.	150M	**D17-139X**	Spec.	Audio Control with Tone Tap
2.0 meg.	1.0 meg.	**D18-139X**	Spec.	Audio Control with Tone Tap
2.0 meg.	250M-500M	**D18-139XX**	Spec.	Audio Cont. with 2 Tone Taps
2.0 meg.	50M	**D19-139X**	Spec.	Audio Control with Tone Tap
3.0 meg.	—	**D13-140**	C	Audio Control
5.0 meg.	—	**D11-141**	A	Potentiometer Voltage Divider
10.0 meg.	—	**D11-143**	A	Potentiometer Voltage Divider

*Supplied with 270 ohm BW-½ (½ Watt) Insulated Wire Wound Resistor.

QUICKLY ATTACHED SWITCHES

	For D and DS Controls	For S and Dual Controls	List	**Net**
SP., ST.	No. 41	No. 21	$0.50	**$0.30**
DP., ST.	No. 42	No. 22	0.60	**0.36**
SP., DT.	No. 43	No. 23	0.60	**0.36**
Three Point	—	No. 24	0.60	**0.36**
Four Point	No. 45	No. 25	0.60	**0.36**
SP., DT. at clockwise position.	—	No. 26	0.60	**0.36**
SP., ST. with dummy lug	No. 47	No. 27	0.60	**0.36**

EXTENSION SHAFTS

These shafts attach to regular shafts, thus extending length to any needed size, and frequently make it possible to use standard controls for "special" jobs.

	List	Net
Shaft No. 441—4″ x ¼″ dia. x $\frac{1}{32}$″ flat	$0.30	**$0.18**
Shaft No. 442—4″ x ¼″ dia. x $\frac{3}{32}$″ flat	.30	**.18**
Shaft No. 443—4″ x $\frac{3}{16}$″ dia. x $\frac{1}{64}$″ flat	.30	**.18**
Shaft No. 444—8″ x ¼″ dia. x $\frac{3}{32}$″ flat for 4″ length	.30	**.18**

16 POPULAR TYPES WITH FIXED SHAFTS

Resistance Ohms	Tap	I R C Stock No.	Taper	Usual Application
10M	—	**DS11-116**	A	Antenna Grid Bias Control
10M	—	**DS14-116**	D	*Antenna Grid Bias of 2 Tubes
25M	—	**DS14-120**	D	*Grid Bias Control
50M	—	**DS11-123**	A	Potentiometer Voltage Divider
100M	—	**DS11-128**	A	Potentiometer Voltage Divider
100M	—	**DS13-128**	C	Tone or Audio Circuit Control
250M	—	**DS11-130**	A	Potentiometer Voltage Divider
250M	—	**DS13-130**	C	Tone or Audio Circuit Control
250M	125M	**DS13-130X**	Spec.	Audio Control with AVC Tap
250M	60M	**DS18-130X**	H	Audio Control with Tone Tap
500M	—	**DS13-133**	C	Tone or Audio Circuit Control
500M	125M	**DS13-133X**	H	Audio Control with Tone Tap
1.0 meg.	—	**DS13-137**	C	Tone or Audio Circuit Control
1.0 meg.	250M	**DS13-137X**	H	Audio Control with Tone Tap
2.0 meg.	—	**DS13-139**	C	Tone or Audio Circuit Control
2.0 meg.	500M	**DS13-139X**	H	Audio Control with Tone Tap

*Supplied with 270 ohm BW-½ (½ Watt) Insulated Wire Wound Resistor.

8 CLUTCH TYPE CONTROLS WITH FIXED SHAFTS

I R C Stock No.	Resistance Ohms	Resistance to Tap
DC13-130	250M	—
DC18-130X	250M	Tap 50M
DC13-133	500M	—
DC13-133X	500M	Tap 125M
DC13-137	1.0 meg.	—
DC13-137X	1.0 meg.	Tap 250M
DC13-139	2.0 meg.	—
DC13-139X	2.0 meg.	Tap 500M

2 SPECIAL CONTROLS FOR POWER REQUIREMENTS
Supplied with TAP-IN SHAFTS

I R C Stock No.	Resistance Ohms
S11-128	0.1 meg.
S13-128	0.1 meg.

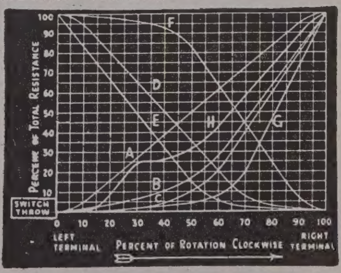
7 DUAL CONTROLS WITH FIXED SHAFTS

I R C Stock No.	Unit	Resistance Ohms	Taper
35-1620	Panel	10,000	C
	Rear	25,000	E
61-1623	Panel	10,000	F
	Rear	50,000	A
33-2828	Panel	0.1 meg.	C
	Rear	0.1 meg.	C
33-3030	Panel	0.25 meg.	C
	Rear	0.25 meg.	C
33-3333	Panel	0.5 meg.	C
	Rear	0.5 meg.	C
33-3737	Panel	1.5 meg.	C
	Rear	1.0 meg.	C
33-3939	Panel	2.0 meg.	C
	Rear	2.0 meg.	C

11 CONTROLS with FIXED SHAFTS for SPECIFIC SERVICE USES

See Page L-16 for complete list of Type J controls, uses and prices.

8 STANDARD TAPERS



A—Used as potentiometer or rheostat in any circuit where uniform resistance change is required.

B—A semi-logarithmic curve used as tone control or audio circuit control.

C—A logarithmic curve. Used as audio circuit control or antenna shunt control.

D—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is of prime importance in controlling volume.

E—Used as a rheostat in cathode circuit to control grid bias.

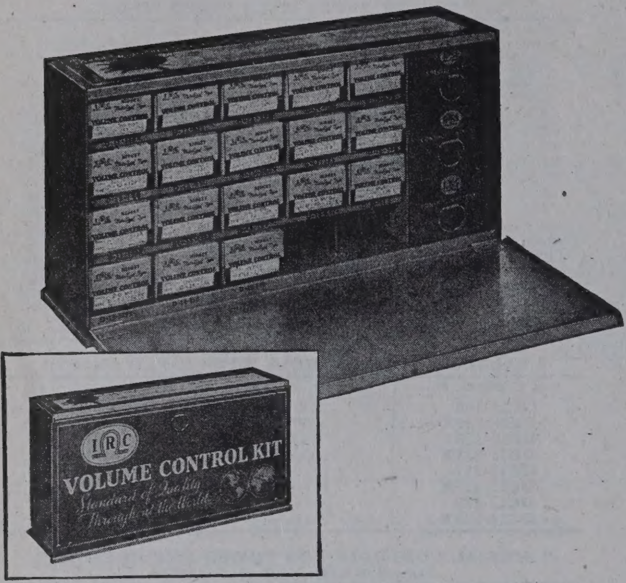
F—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is essential in controlling volume. Generally used where the control changes the grid bias of only one or two tubes. Must not be used with heavy currents.

G—A logarithmic curve with very gradual change in resistance from left terminal. Used as audio circuit control or antenna shunt control.

H—A tapped logarithmic curve used as audio level control for automatic bass compensation.

IRC VOLUME CONTROLS

Preferred for Performance



Master Radiotrician's CONTROL CABINET

With Type D Universal Controls

The IRC Control Cabinet with its practical stock of Type D Controls, Switches and Shafts is the greatest step toward standardization of replacement controls ever introduced. Now popular among thousands of servicemen and dealers, it will save you time by furnishing required replacements when you need them. It saves you money by eliminating special trips for needed controls and often eliminates more costly exact duplicates. It enables you to reduce your inventory, step up your turnover, and increase your profits.

Specified for Over 10,850 Models!

Definitely proved by IRC sales records to handle up to an average of 87% of all control replacements, you will find the control types included are recommended for over 10,850 models in the new IRC Volume Control Replacement Manual! The comprehensive replacement utility of this practical stock, together with the enviable reputation of Type D controls for quiet, trouble-free operation and lasting dependable service, will definitely solve your control problems.

HERE IS WHAT YOU GET!

The IRC Master Radiotrician's Cabinet is factory-packed with the following 18 Type D Controls, switches and special shafts.

IRC Control Type No.	Resistance	Purpose
2—D13-133	500,000	A
1—D11-116	10,000	B
1—D11-123	50,000	C
1—D11-128	100,000	C
1—D11-133	500,000	C
1—D13-123	50,000	D
1—D13-128	100,000	A
1—D13-130	250,000	A
1—D13-130X	250,000	E
1—D13-133X	500,000	F
1—DC13-133X	500,000	G
1—D13-137	1.0	A
1—D13-137X	1.0	F
1—D13-139	2.0	A
1—D13-139X	2.0	F
1—D14-116	10,000	H
1—D16-119	20,000	B

A—Tone or Audio Circuit Control. B—Antenna Grid Bias Control. C—Potentiometer Voltage Divider. D—Tone Control. E—Tapped for A.V.C. F—Tapped for Tone Compensation. G—Friction Clutch Auto Radio Type. H—Antenna Grid Bias of 2 Tubes.

Switches: 5—No. 41 S.P.S.T.; 1—No. 42 D.P.S.T. **Shafts:** 1—Type B Auto Radio; 2—Type C with slotted, knurled terminals; 2—Type D with slotted, unknurled terminals.

List price of 18 Controls, 6 Switches, 5 Special (extra) Shafts, $24.95

NET PRICE $14.97 — THE CABINET IS INCLUDED FREE!

Attractive All-Metal Cabinet Included *FREE*

The IRC Control Cabinet is of sturdily-built all-metal construction and attractively finished in blue, yellow and silver. It provides individual compartments for 20 IRC Controls; 18 compartments indicate the control types included—you see at a glance what types should be reordered. Three handy drawers accommodate switches, special shafts, and spare parts. The hinged front cover snaps securely shut, so the cabinet may be carried in your car or truck, or may be removed entirely for shop use. Cabinet measures 14½" long, 7⅜" high, and 4½" wide. Base is arranged for stacking where additional cabinets are required. This handsome cabinet is furnished FREE when packed with the IRC Type D Controls, Switches and Shafts indicated at the right.

11 IRC TYPE J CONTROLS FOR MANY SPECIAL REQUIREMENTS!

IRC sales records show that these 11 most popular special controls will handle nearly one-third of your requirements for exact duplicate controls. The group includes concentric duals, and special shaft units. For a more complete stock, carry at least one of each:

DJ-4—2.0 meg (tap 500M ohms)/1.0 meg. RCA: RC-351, A, B, C, D, E, F, M, R, RC-352, A, B, C, RC-386, B ch. Sears-Roebuck: 126.208 Ch. Westinghouse Elec. Supply: WR-264. List $3.00, **Net $1.80**

DJ-5—2.0 meg/1.0 meg. Zenith: 5637, 5803 Chassis (Dual Control). List $3.00, **Net $1.80**

J-15—32M ohms. Stewart-Warner: R-100A, B, E, (AC) (Note 15), 950 series (AC) (Note 15). List $1.50, **Net $0.90**

J-107—10M/50M ohms. General Electric: T-41 (Note 3). Graybar: GB-678 (Note 3). Pilot: K-117. RCA: R14, R15, RE17 (Note 3), 42 (Radiola), 48 (Radiola) (Note 3). Westinghouse Elec. & Mfg.: WR-4. List $2.50, **Net $1.50**

J-127—3800/3800 ohms. RCA: R32, RE45, R52, RE75, 145. List $2.50, **Net $1.50**

J-210—13M ohms (tap 3M ohms). General Electric: J-80, J-85, JZ-835, K-62, KZ-62P, K-82, S-132. Graybar: GT-8, GB-9, GC-14, GB-989. RCA: R8, R10, R11, R12, RE18, RE18A, RE19, R21, RO23, RAE26. Westinghouse Elec. & Mfg.: WR-15. Westinghouse International WR15A, WR18. List $1.50, **Net $0.90**

J-296—225M/5M ohms. Philco: 70, 70A below B22,000, 90, 90A (Two 45's), 270, 270A, 370, 470, 470A, 570. List $2.50, **Net $1.50**

J-777—350M ohms. Chrysler: C1423. Ford: T9, FT9, FT9X, F1440, F1442. Graham: G1418, G1435. Lincoln: L1420, L1424, L1425, L1427, L1429, L1460. Nash: T12-NT 12X, NT 12 X2, T15 NT 15, NT15X, N1418, N1433 H, N1434·H, N1514. Packard: P1417, P1517. Philco: 811 PA, PB, PV, 816, 817, 818, 821P, 821PV, 826, 827, 827K, 828, 828K. Reo: R1415. Studebaker: T12-ST12, T15-ST15, S1431, S1437, S1516. Willys Overland: W1419. List $1.50, **Net $0.90**

J-823—150M/250M ohms (Tap 125M ohms). General Elec.: A-82, A-86, A-87. List $2.50, **Net $1.50**

J-843—350M ohms (tap 75M ohms). Chrysler T10-CT10, T11-CT11, C1450, C1452. DeSoto: T10-CT10, T11-CT11. Dodge: T11-CT11. Hupmobile: HT11X. Lincoln: LT 14X3. Packard: T14-PT14, P1422, P1430, P1432 H, P1439. Pierce-Arrow: T14-MT14X4. Reo: T11-CT11, T14-R14X. List $1.50, **Net $0.90**

J-1002—2.0 meg (tap 5M ohms), General Elec.: F70, F75, F80 (Note 4), F81, F85 (Note 4), F86, F88 (Note 4), FE82, FE87 (Note 4), J-1002 (Note 4 and add switch). General Elec.: F63, F65, F66, F74, F77. List $1.50, **Net $0.90**

List Price of 1 each of above controls $23.50

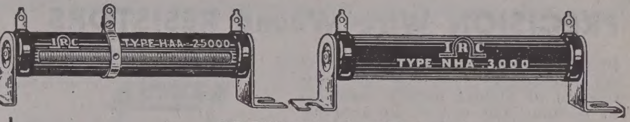
YOUR NET COST—$14.10

(Order as "11—Group A, IRC Special Controls")

POWER RESISTORS

Preferred for Performance

"PREFERRED FOR PERFORMANCE"



Not only do these famous resistors excel electrically, but their "climate-proofed" cement coating provides the most dependable protection yet devised for resistors for heavy duty work. Both fixed and adjustable types are available. Mounting Brackets are packed with all resistors from 25 watts and up. One Adjustable Band is furnished with each adjustable resistor. The new Type X Band (described below) is included as standard on units of 25 watts and above. Extra bands supplied at prices indicated.

FIXED TYPES

10 WATTS

Type AB
1¾" x 5/16"
List $0.45
Net $0.27

Ohms	Max. m. a.
1	3150
2	2210
3	1830
5	1420
7.5	1150
10	1000
15	820
20	720
25	640
50	440
75	360
100	315
150	260
200	220
250	200
300	175
350	169
400	157
500	140
600	125
750	115
800	112
1,000	100
1,250	90
1,450	83
1,500	82
2,000	71
2,250	67
2,500	63
3,000	57
3,500	53
4,000	50
4,500	47
5,000	45
6,000	41
7,000	37
7,500	36
8,000	35
8,500	34
9,000	33
10,000	31
List $0.50	
Net $0.30	
11,000	30
12,000	28
12,500	28
14,300	25
15,000	25
20,000	22
25,000	20

20 WATTS

Type DG
2" x 9/16"
List $0.70
Net $0.42

Ohms	Max. m. a.
1	4400
5	2000
10	1415
25	895
50	633
75	517
100	447
150	365
200	316
250	282
300	258
350	238
400	224
500	200
750	163
800	158
850	153
1,000	141
1,200	129
1,250	126
1,500	115
1,750	107
1,850	104
2,000	100
2,250	94
2,500	89
3,000	81
3,500	75
4,000	70
4,500	66
5,000	63
6,000	57
7,000	53
7,500	51
8,000	50
8,500	48
9,000	46
10,000	43
11,000	41
12,000	40
12,500	39
15,000	35
List $0.85	
Net $0.51	
20,000	30
25,000	28
30,000	25
35,000	23
40,000	22
50,000	20

50 WATTS

Type EP
4½" x ¾"
List $1.20
Net $0.72

Ohms	Max. m. a.
5	3165
10	2230
25	1390
50	1000
100	700
200	500
250	440
500	300
750	250
1,000	215
1,500	175
2,000	155
2,500	135
3,000	120
4,000	105
5,000	95
List $1.40	
Net $0.84	
6,000	85
7,000	78
7,500	77
8,000	75
10,000	66
12,000	63
12,500	60
15,000	56
20,000	48
25,000	43
List $1.60	
Net $0.96	
30,000	39
40,000	34
50,000	30
60,000	28
75,000	25
0.1 meg.	21

80 WATTS

Type ES
6½" x ¾"
List $1.40
Net $0.84

Ohms	Max. m. a.
5	4000
10	2730
25	1730
50	1220
100	865
200	612
250	545
500	387
750	316
1,000	274
1,500	223
2,000	193
2,500	173
3,000	158
4,000	137
5,000	122
List $1.65	
Net $0.99	
6,000	112
7,500	100
8,000	98
10,000	86
15,000	70
20,000	61
25,000	55
List $1.95	
Net $1.17	
30,000	50
40,000	43
50,000	39
List $2.20	
Net $1.32	
60,000	35
75,000	31
List $2.50	
Net $1.50	
0.1 meg.	27

100 WATTS

Type HA
6½" x 1⅛"
List $1.65
Net $0.99

Ohms	Max. m. a.
25	2000
50	1414
75	1155
100	1000
150	815
250	632
500	447
750	365
1,000	315
1,250	280
1,500	250
2,000	220
2,500	200
3,000	180
5,000	140
List $1.95	
Net $1.17	
7,500	115
10,000	100
15,000	80
20,000	70
25,000	63
List $2.20	
Net $1.32	
30,000	58
40,000	50
50,000	44
List $2.50	
Net $1.50	
60,000	41
75,000	36
List $2.75	
Net $1.65	
0.1 meg.	31

200 WATTS

Type HO
10½" x 1⅛"
List $2.75
Net $1.65

Ohms	Max. m. a.
25	2830
50	2000
100	1414
250	804
500	632
750	515
1,000	447
1,500	365
2,000	316
2,500	283
3,000	258
5,000	200
7,500	163
10,000	141
List $3.30	
Net $1.98	
15,000	115
20,000	100
25,000	90
30,000	81
40,000	70
50,000	63
60,000	57
75,000	51
0.1 meg.	44

ADJUSTABLE TYPES

10 WATTS

Type ABA
1¾" x 5/16"
List $0.75
Net $0.45

Ohms	Max. m. a.
1	3150
2	2210
3	1830
5	1420
7.5	1150
10	1000
15	820
20	720
25	640
50	440
75	360
100	315
150	260
200	220
250	200
300	175
350	160
400	157
500	140
600	125
750	115
800	112
1,000	100
1,250	99
1,450	83
1,500	82
2,000	71
2,250	67
2,500	63
3,000	57
3,500	53
4,000	50
4,500	47
5,000	45
6,000	41
7,000	37
7,500	36
8,000	35
8,500	34
9,000	33
10,000	31

25 WATTS

Type DHA
2½" x 9/16"
List $0.95
Net $0.57

Ohms	Max. m. a.
1	5000
3	2850
5	2200
10	1580
15	1290
25	1000
50	710
75	575
100	500
150	400
200	353
250	320
300	289
400	250
500	224
750	182
800	177
1,000	158
1,250	141
1,500	129
2,000	112
2,250	105
2,500	100
3,000	91
3,500	84
4,000	79
5,000	71
List $1.10	
Net $0.66	
6,000	64
7,500	58
8,000	56
9,000	53
10,000	50
12,000	45
15,000	41
List $1.20	
Net $0.72	
20,000	35
25,000	32

50 WATTS

Type EPA
4½" x ¾"
List $1.50
Net $0.90

Ohms	Max. m. a.
5	3165
10	2230
25	1390
50	1000
75	810
100	700
150	550
200	500
250	440
300	375
400	350
500	300
750	250
800	248
1,000	215
1,250	195
1,500	175
2,000	155
2,500	135
3,000	120
4,000	105
5,000	95
List $1.65	
Net $0.99	
6,000	85
7,500	77
8,000	75
10,000	66
12,000	63
15,000	56
20,000	48
25,000	43
List $1.90	
Net $1.14	
30,000	39
40,000	34
50,000	30
List $2.20	
Net $1.32	
60,000	28
75,000	25
0.1 meg.	21

80 WATTS

Type ESA
6½" x ¾"
List $1.95
Net $1.17

Ohms	Max. m. a.
5	4000
10	2730
15	2230
25	1730
50	1220
100	865
200	612
250	545
300	500
400	430
500	387
750	316
800	305
1,000	274
1,500	223
2,000	193
2,500	173
3,000	158
3,500	145
4,000	137
5,000	122
List $2.20	
Net $1.32	
6,000	112
7,500	110
8,000	98
10,000	86
15,000	70
20,000	61
25,000	55
List $2.50	
Net $1.50	
30,000	50
35,000	47
40,000	43
45,000	41
50,000	39
List $2.75	
Net $1.65	
60,000	35
80,000	30
0.1 meg.	27

100 WATTS

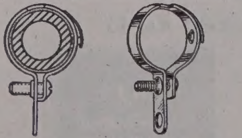
Type HAA
6½" x 1⅛"
List $2.20
Net $1.32

Ohms	Max. m. a.
100	1000
200	710
400	500
500	447
750	365
1,000	315
1,500	250
2,000	220
2,500	200
3,000	180
4,000	155
5,000	140
List $2.50	
Net $1.50	
6,000	130
7,500	115
8,000	110
10,000	100
15,000	80
20,000	70
25,000	63
List $2.75	
Net $1.65	
30,000	58
40,000	50
50,000	44
List $3.00	
Net $1.80	
60,000	41
75,000	36
0.1 meg.	31

200 WATTS

Type HOA
10½" x 1⅛"
List $3.30
Net $1.98

Ohms	Max. m. a.
100	1414
500	632
1,000	447
1,500	365
2,000	316
2,500	283
3,000	258
5,000	200
10,000	141
List $3.85	
Net $2.31	
15,000	115
20,000	100
25,000	90
30,000	81
40,000	70
50,000	63
60,000	57
75,000	51
0.1 meg.	44



No more wire damage when the sliding contact band is moved on adjustable resistors. No corrosion at point of contact! The new IRC Type X Positive Pressure Contact Band removes these troubles once and for all. Silver contact button is attached to constant-pressure steel spring.

TYPE X BANDS

Resistor	Band	List	Net
DHA	"X2"	$0.20	$0.12
EPA-ESA	"X3"	.20	.12
HAA-HOA	"X4"	.25	.15

(No Type X Band available for ABA)

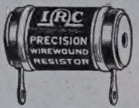
STANDARD BAND

Resistor	Band	List	Net
ABA	"A"	$0.10	$0.06

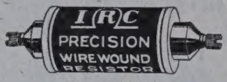
IRC RESISTORS

Preferred for Performance

PRECISION Wire Wound RESISTORS



Type WW-4
$\frac{9}{16}$″ x 1″
Type WW-5
¾″ x 1¼″



Type WW-1
$\frac{9}{16}$″ x 2⅛″
Type WW-2
⅞″ x 2$\frac{15}{16}$″

IRC Precision Wire Wound Resistors are scientifically designed and constructed of highest quality materials to combine the utmost in accuracy with dependability. Winding forms are of a non-hygroscopic ceramic having high insulation qualities, high mechanical strength and low-coefficient of expansion. Because of the special sectional construction which permits the winding of adjacent sections in opposite directions, a noninductive winding is made possible. This insures constant resistance at all frequencies up to 50,000 cycles.

These units are used by the leading instrument manufacturers for dependable precision meter multipliers and shunts, decade boxes and calibrated gain controls. 1% accuracy is standard. Closer tolerances available at slightly higher prices as follows: for ½% tolerance, add 10%; for ¼% accuracy, add 15%; and for 1/10 of 1%, add 25% to list prices.

	WW-4		WW-1	
	List	Net	List	Net
0.1, 0.5, 1, 10, 25, 50, 100, 200, 250, 300 and 500 ohms	$0.85	**$0.51**	$1.15	**$0.69**
1,000, 1,500 and 2,000 ohms	.90	**.54**	1.15	**.69**
2,500 ohms	.90	**.54**	1.25	**.75**
4,000, 5,000, 7,500 and 10,000 ohms	1.00	**.60**	1.25	**.75**
12,500 and 15,000 ohms	1.10	**.66**	1.35	**.81**
20,000, 22,500, 25,000, 30,000, 40,000 and 50,000 ohms	1.35	**.81**	1.60	**.96**
60,000 and 75,000 ohms	1.60	**.96**	1.90	**1.14**
0.1 meg.	1.85	**1.11**	2.10	**1.26**
0.125 meg.	2.10	**1.26**	2.40	**1.44**
0.15, 0.175 and 0.2 meg.	2.35	**1.41**	2.65	**1.59**
0.225 and 0.25 meg.	2.60	**1.56**	2.90	**1.74**
0.3 meg.	2.85	**1.71**	3.15	**1.89**
0.4 meg.	3.00	**1.80**	3.15	**1.89**
0.5 meg.	3.40	**2.04**	3.65	**2.19**
	WW-5		WW-2	
0.6 meg.	4.25	**2.55**	4.25	**2.55**
0.75 meg.	4.50	**2.70**	4.50	**2.70**
0.9 meg.	4.75	**2.85**	4.75	**2.85**
1.0 meg.	5.25	**3.15**	5.25	**3.15**
1.5 meg.			7.50	**4.50**
2.0 meg.			10.00	**6.00**
2.5 meg.			12.50	**7.50**

For list prices of odd ranges not shown, use same price as given for next higher range. Type WW-3 ($\frac{9}{16}$″ x $\frac{9}{16}$″) with wire leads or lug terminals obtainable on special order at same price as WW-4. Made in all ranges from 1 ohm to 0.15 meg. WW-4 and WW-5 with wire lead terminals instead of lugs are available on special order at no increase in cost.

Special Precision Resistor Types

In addition to those listed here, IRC offers a complete line of 14 Precision Resistor types in sizes, shapes and terminals for every need. See your distributor or write for details.

IRC VOLUME CONTROL

REPLACEMENT MANUAL

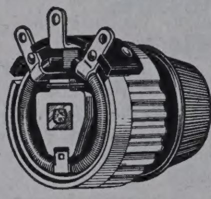
Edition No. 3 (With Supplement No. 1)

IRC
Volume Control
REPLACEMENT
MANUAL
AND
RESISTOR CATALOG

Large 8½″ x 11″ size with 136 pages lists one-third more models. Includes original manufacturers' part numbers, Rider's schematic reference and special shaft requirements. Models and chassis cross-indexed. Trade and brand names in logical alphabetical order. Pages lettered for quick reference. The most comprehensive handbook of control replacement ever attempted.

Price 10 cents

ALL-METAL RHEOSTATS



PR-25 (25 Watts)
1$\frac{21}{32}$″ diam. Depth
behind panel, $\frac{31}{32}$″
PR-50 (50 Watts)
2⅜″ diam. Depth
behind panel, 1⅜″

Operating temperatures are cut almost in half by the unique, all-metal aluminum construction of these new IRC Rheostats. They dissipate heat more rapidly—give ample safety factor. Ratings based on hottest spot temp. rise of only 140 degrees C. with max. load distributed over entire element. With full load applied to as little as 25% of element, rise is only 160 degrees C. Exclusive IRC Spiral Connector gives positive contact between rotor arm and center terminal.

PR-25—25 Watts

Ohms	Max. m.a.	List Price	Net Price
0.5	7,000	$4.50	**$2.70**
1	5,000	4.50	**2.70**
2	3,450	4.00	**2.40**
3	2,880	4.00	**2.40**
6	2,040	4.00	**2.40**
8	1,770	4.00	**2.40**
10	1,580	4.00	**2.40**
15	1,290	4.00	**2.40**
25	1,000	4.00	**2.40**
35	845	4.00	**2.40**
50	709	4.00	**2.40**
75	575	4.00	**2.40**
100	500	4.00	**2.40**
125	445	4.00	**2.40**
175	375	4.00	**2.40**
250	315	4.00	**2.40**
350	267	4.00	**2.40**
500	222	4.00	**2.40**
750	173	4.00	**2.40**
1,000	155	4.50	**2.70**
1,500	129	4.50	**2.70**
2,500	100	4.50	**2.70**
3,500	84	4.75	**2.85**
5,000	70	4.75	**2.85**

PR-50—50 Watts

Ohms	Max. m.a.	List Price	Net Price
0.5	10,000	$5.00	**$3.00**
1	7,070	5.00	**3.00**
2	5,000	5.00	**3.00**
4	3,520	4.50	**2.70**
6	2,880	4.50	**2.70**
8	2,500	4.50	**2.70**
12	2,040	4.50	**2.70**
16	1,770	4.50	**2.70**
22	1,500	4.50	**2.70**
35	1,190	4.50	**2.70**
50	1,000	4.50	**2.70**
80	790	4.50	**2.70**
125	630	4.50	**2.70**
150	575	4.50	**2.70**
225	470	4.50	**2.70**
300	407	4.50	**2.70**
500	315	4.50	**2.70**
800	250	4.75	**2.85**
1,000	223	4.75	**2.85**
1,600	177	4.75	**2.85**
2,500	140	4.75	**2.85**
3,500	120	5.00	**3.00**
5,000	100	5.00	**3.00**
8,000	79	5.00	**3.00**
10,000	70	5.00	**3.00**

OTHER IRC ITEMS FOR SPECIAL SERVICE USE

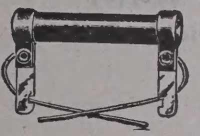
Your IRC Distributor will be pleased to give you full information on any of the following IRC units for which you may have occasional need.

TYPE A-21 ATTENUATORS
TYPE B-31 ATTENUATORS
L- AND T-PAD ATTENUATORS
TYPE F RESISTORS
ULTRA HIGH RANGE RESISTORS
NON-INDUCTIVE WIRE WOUNDS
HIGH FREQUENCY RESISTORS

ATLAS RESISTORS

Atlas Wire Wound Resistors with Pig-Tails & Lugs

5 AND 10 WATT RATINGS



- **MOISTURE PROOF**
- **TRIPLE INSULATION**
- **TOLERANCE WITHIN 5%**
- **64 STANDARD OHMAGES**

5 WATTS—TYPE 1PT—1¾" x 5/16"

List $0.35	Ohms	Ohms
Ohms	450	3,500
5	500	4,000
10	600	4,500
15	700	5,000
20	750	6,000
25	800	7,000
30	850	7,500
40	900	8,000
50	1,000	8,500
75	1,100	9,000
100	1,200	10,000
125	1,250	
150	1,350	List $0.40
175	1,400	
200	1,500	12,500
225	1,750	14,000
250	2,000	15,000
275	2,250	17,500
300	2,500	20,000
350	2,750	22,500
400	3,000	25,000

10 WATT—TYPE 2PT—1¾" x ⅜"

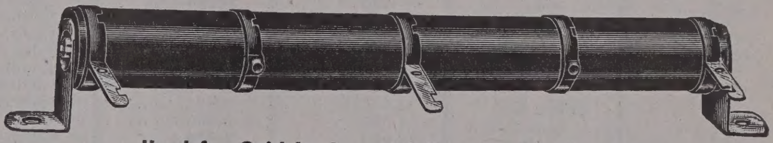
List $0.40	Ohms	Ohms
Ohms	600	6,000
5	700	7,000
10	750	7,500
15	800	8,000
20	850	8,500
25	900	9,000
30	1,000	10,000
40	1,100	
50	1,200	List $0.45
75	1,250	12,500
100	1,350	14,000
125	1,400	15,000
150	1,500	17,500
175	1,750	20,000
200	2,000	22,500
225	2,250	25,000
250	2,500	
275	2,750	List $0.50
300	3,000	30,000
350	3,500	35,000
400	4,000	40,000
450	4,500	45,000
500	5,000	50,000

ATLAS HEAVY-DUTY IRON-OXIDE COATED NON-INDUCTIVE TRANSMITTING BLEEDER RESISTORS WITH CENTER TAP

4 or 8 Sections

Ruggedly built, accurately made and procurable in a practical non-inductive winding. Atlas high voltage bleeder resistors are designed to improve the performance of your transmitter by functioning quietly and effectively.

A most important feature found only in Atlas heavy duty bleeder resistors is the non-inductive winding. Each side of the center tap has two to four oppositely wound sections of equal resistance. Therefore should only one section be used, that section will be purely non-inductive as well.



Used for Grid Leaks as Well as for Bleeders by AMATEUR SHORT-WAVE AND BROADCAST STATIONS

Specify whether you want Inductive or Non-Inductive Bleeders

EQUIPPED WITH HEAVY MOUNTING BRACKETS

100 WATTS—Size 8" x 15/16"

Type	Ohmage	Resistance	List
IF	5000	2500-0-2500	$1.95
IFA	10000	5000-0-5000	1.95
IFB	15000	7500-0-7500	2.20
IFC	20000	10000-0-10000	2.20
IFD	30000	15000-0-15000	2.20
IFE	40000	20000-0-20000	2.50
IFF	50000	25000-0-25000	2.50
IFG	100000	50000-0-50000	2.50

150 WATTS—Size 9½" x 1"

Type	Ohmage	Resistance	List
IG	5000	2500-0-2500	$2.20
IGA	10000	5000-0-5000	2.20
IGB	20000	10000-0-10000	2.20
IGC	50000	25000-0-25000	2.45
IGD	100000	50000-0-50000	2.80

200 WATTS Size 11" x 1⅛"

Type	Ohmage	Resistance	List
IH	5000	2500-0-2500	2.50
IHA	10000	5000-0-5000	2.50
IHB	15000	7500-0-7500	2.50
IHC	20000	10000-0-10000	2.50
IHD	30000	15000-0-15000	2.50
IHE	40000	20000-0-20000	2.70
IHF	50000	25000-0-25000	2.70
IHG	100000	50000-0-50000	3.10

Add 40c for Non-Inductive

ATLAS RESISTORS

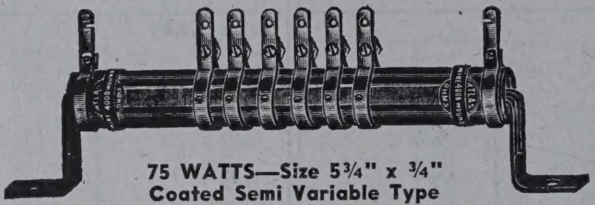
Atlas Heavy Duty Adjustalble Voltage Dividers

S-I-X OUTSTANDING REASONS W-H-Y

You Get Far More for Your Money When You Buy Atlas Variable Resistors . . .

1—Fully pack wire wound—not space-wound
2—Heavier wire and more of it—full safe wattage rating
3—Heavy duty iron-oxide coating—safely dissipating high heat
4—One band supplied free with every resistor
5—Accurately wound resistance values—well within 5% tolerance
6—Large, oversize non-hydroscopic tubing—affording plenty of area for heat dissipation

All Adjustable Resistors Are Supplied with



75 WATTS—Size 5¾" x ¾"
Coated Semi Variable Type

Mounting Brackets at No Extra Charge

10 WATTS **Type 1AT** **2" x ½"** **List $0.60**
Ohms
1
2
3
5
7.5
10
15
20
25
50
75
100
150
200
250
300
350
400
500
600
750
800
1,000
1,250
1.450
1,500
2,000
2,250
2,500
3,000
3,500
4,000
4,500
5,000
List $0.65
6,000
7,000
7,500
8,000
8,500
9,000
10,000

20 WATTS **Type 2AT** **2½" x 9/16"** **List $0.75**
Ohms
1
3
5
10
15
25
50
75
100
150
200
250
500
750
800
1,000
1,500
2,000
2,500
3,000
3,500
4,000
5,000
List $0.80
6,000
7,500
10,000
12,000
15,000

25 WATTS **Type 3AT** **3" x ⅝"** **List $0.85**
Ohms
1
3
5
10
15
25
50
75
100
150
200
250
300
400
500
750
800
1,000
1,250
1,500
2,000
2,250
2,500
3,000
3,500
4,000
5,000
List $0.95
6,000
7,500
8,000
9,000
10,000
12,000
15,000
List $1.05
20,000
25,000

50 WATTS **Type 4AT** **5" x ¾"** **List $1.35**
Ohms
5
10
25
50
75
100
150
200
250
300
400
500
750
800
1,000
1,250
1,500
2,000
2,500
3,000
4,000
5,000
List $1.50
6,000
7,500
8,000
10,000
12,000
15,000
20,000
25,000
List $1.70
30,000
40,000
50,000
List $2.00
60,000
75,000
0.1 meg.

Type 5AT **75 WATTS** **5¾" x ¾"** **List $1.75**
Ohms
5
10
15
25
50
100
200
250
300
400
500
750
800
1,000
1,500
2,000
2,500
3,000
3,500
4,000
5,000
List $2.00
6,000
7,500
8.000
10,000
15,000
20,000
25,000
List $2.25
30,000
35,000
40,000
45,000
50,000
List $2.50
60,000
80,000
0.1 meg.

100 WATTS **Type 6AT** **6½" x 1⅛"** **List $2.00**
Ohms
100
200
400
500
750
1,000
1,500
2,000
2,500
3,000
4,000
5,000
List $2.25
6,000
7,500
8,000
10,000
15,000
20,000
25,000
List $2.50
30,000
40,000
50,000
List $2.75
60,000
75,000
0.1 meg.

160 WATTS **Type 7AT** **8½" x 1⅛"** **List $2.60**
Ohms
100
500
1,000
1,500
2,000
2,500
3,000
5,000
List $2.75
10,000
15,000
List $3.00
20,000
25,000
30,000
40,000
50,000
List $3.25
60,000
75,000
0.1 meg.

200 WATTS **Type 8AT** **11" x 1⅛"** **List $3.15**
Ohms
100
500
1,000
1,500
2,000
2,500
3,000
5,000
10,000
List $3.80
15,000
20,000
25,000
30,000
40,000
50,000
60,000
75,000
0.1 meg.

IMPORTANT: Do not order values above maximum ohmages listed. Higher values not possible at specified wattage ratings.

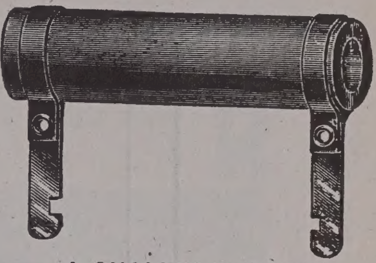
ATLAS RESISTORS

Atlas Fixed Resistors

5-10-20-25-50-75-100-160-200 WATT RATINGS

Atlas Pack-Wound Heavy-Duty Iron-Oxide Coated Resistors are the very best for Ship Instruments, Meters, Laboratory equipment, Transmitting and Radio Receivers or any requirement where dependable resistors are essential.

Every mechanical and electrical construction to produce the highest efficiency possible is represented in these specially designed types.



- A QUALITY PRODUCT
- NON-POROUS
- ACCURATE -
- 5% TOLERANCE

5 WATTS
Type 1FT
1" x 9/16"
List $0.35

Ohms	Max. m. a.
1	2240
2	1580
3	1290
4	1110
5	1000
10	707
15	575
20	500
25	447
30	408
35	374
40	346
50	316
75	258
100	222
125	200
150	182
200	158
225	149
250	141
300	129
350	119
400	111
500	100
600	91
700	84
750	81
800	79
900	74
1,000	70
1,100	64
1,200	60
1,250	59
1,500	54
1,750	50
2,000	44
2,500	40
3,000	36
4,000	31
5,000	28

10 WATTS
Type 2FT
2" x 9/16"
List $0.50

Ohms	Max. m. a.
1	3150
2	2230
3	1825
5	1415
7.5	1155
10	1000
15	815
20	707
25	630
50	447
75	365
100	315
150	258
200	223
250	200
300	182
350	169
400	158
500	141
600	129
700	119
750	115
800	111
900	105
1,000	100
1,200	91
1,250	89
1,500	79
1,750	74
2,000	69
2,250	64
2,500	61
3,000	56
3,500	51
4,000	47
4,500	44
5,000	40
6,000	36
7,000	33
7,500	32
8,000	31
8,500	30
10,000	24
List $0.55	
12,000	20
12,500	20
15,000	18
17,500	17
18,000	16
20,000	15
22,500	15
25,500	14
30,000	8
40,000	7
45,000	6
50,000	6

20 WATTS
Type 3FT
2" x 5/8"
List $0.60

Ohms	Max. m. a.
5	2000
10	1414
15	1153
20	1000
25	894
40	707
50	633
60	574
75	517
100	448
125	400
150	365
200	316
250	283
300	258
350	238
400	223
500	200
600	182
700	169
750	163
800	158
1,000	141
1,100	134
1,250	126
1,500	115
2,000	100
2,500	89
3,000	81
4,000	70
5,000	63
6,000	57
7,000	53
7,500	51
8,000	50
10,000	43
12,500	39
15,000	30
List $0.70	
20,000	24
25,000	21
30,000	21
35,000	18
40,000	17
45,000	13
50,000	11
List $1.00	
55,000	11
60,000	10
65,000	10
70,000	9
75,000	9
80,000	8
85,000	7
90,000	6.5
95,000	8
100,000	6

25 WATTS
Type 4FT
3" x 5/8"
List $0.80

Ohms	Max. m. a.
5	2240
10	1580
25	1000
50	707
75	577
100	500
150	410
200	354
250	316
500	224
750	182
800	177
1,000	158
1,500	129
2,000	112
2,500	100
3,000	91
3,500	84
4,000	79
5,000	70
6,000	64
7,500	57
10,000	50
12,000	44
15,000	34
List $1.00	
20,000	26
25,000	23
30,000	20
35,000	16
40,000	14
45,000	13
50,000	12
List $1.10	
60,000	9
70,000	8
80,000	8
90,000	7
100,000	7

50 WATTS
Type 5FT
4" x 15/16"
List $1.10

Ohms	Max. m. a.
5	3165
10	2230
25	1390
50	1000
100	700
200	500
250	440
500	300
750	250
1,000	215
1,500	175
2,000	155
2,500	135
3,000	120
4,000	105
5,000	95
List $1.20	
6,000	85
7,000	78
7,500	77
8,000	75
10,000	66
12,000	63
12,500	60
15,000	56
20,000	48
25,000	43
List $1.40	
30,000	39
40,000	34
50,000	30
List $1.60	
60,000	28
75,000	25
100.000	21

75 WATTS
Type 6FT
6" x 15/16"
List $1.40

Ohms	Max. m. a.
5	4000
10	2730
25	1780
50	1220
100	865
200	612
250	545
500	387
750	316
1,000	274
1,500	223
2,000	193
2,500	173
3,000	158
4,000	137
5,000	122
List $1.65	
6,000	112
7,500	100
8,000	98
10,000	86
15,000	70
20,000	61
25,000	55
30,000	50
List $1.90	
40,000	43
50,000	39
List $2.15	
60,000	35
75,000	31
List $2.40	
100,000	27

100 WATTS
Type 7FT
6½" x 1⅛"
List $1.65

Ohms	Max. m. a.
25	2000
50	1414
75	1155
100	1000
150	815
250	632
500	447
750	365
1,000	315
1,250	280
1,500	250
2,000	220
2,500	200
3,000	180
5,000	140
List $1.95	
7,500	115
10,000	100
15,000	80
20,000	70
25,000	63
List $2.25	
30,000	58
40,000	50
50,000	44
List $2.55	
60,000	41
75,000	36
List $2.85	
100,000	31

160 WATTS
Type 8FT
8½ x 1⅛"
List $2.00

Ohms	Max. m. a.
5	5660
10	4000
25	2530
50	1788
75	1460
100	1260
200	900
500	570
1,000	400
1,500	330
2,000	280
2,500	250
3,000	230
3,500	215
4,000	200
4,500	185
5,000	180
List $2.25	
7,500	145
10,000	125
15,000	105
20,000	90
25,000	80
List $2.50	
30,000	67
35,000	57
40,000	50
50,000	40
List $2.75	
60,000	33
70,000	28
80,000	25
List $3.00	
100,000	20

200 WATTS
Type 9FT
11" x 1⅛"
List $2.50

Ohms	Max. m. a.
5	6310
10	4470
25	2830
50	2000
75	1635
100	1400
250	900
500	630
1,000	450
1,500	365
2,000	315
2,500	280
3,000	260
3,500	240
4,000	225
4,500	210
5,000	200
7,500	165
10,000	140
List $3.00	
15,000	115
20,000	100
25,000	90
30,000	82
35,000	71
40,000	62
50,000	50
60,000	42
75,000	33
100,000	25

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

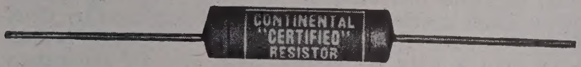
RADIO'S MASTER

CONTINENTAL RESISTORS

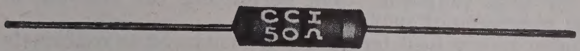
CONTINENTAL Carbon Composition Insulated Resistors

CONTINENTAL
"CERTIFIED"
RESISTOR

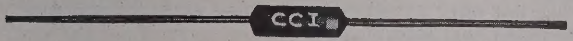
M2-2 WATT



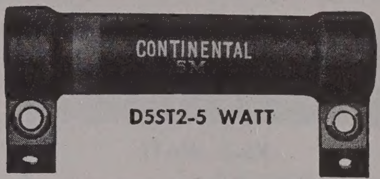
M1-1 WATT



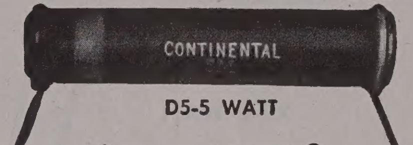
M½-½ WATT



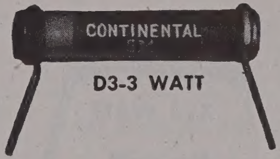
M¼-¼ WATT



D5ST2-5 WATT



D5-5 WATT



D3-3 WATT

CONTINENTAL M-Type
Insulated Composition Resistors

The M-Type resistor with axial leads consists of a solid molded carbon core with molded-in leads. An outer insulating shell surrounds the carbon core and is impregnated with a waterproofing compound to seal the unit against humidity. These resistors, being well insulated, can be mounted side by side or against any metal surface without shorting or grounding. They are recommended where space limits and insulating quality require a rugged reliable and small resistor capable of withstanding severe service. All sizes made in the standard stock values.

			List Price —Tolerance—	
Type	**Wattage**	**Size**	**±5%**	**±10%**
M ¼	¼ Watt	$\frac{13}{32}$" x $\frac{5}{32}$"	$0.25	$0.15
M ½	½ Watt	⅝" x $\frac{7}{32}$"	.25	.17
M 1	1 Watt	⅞" x $\frac{9}{32}$"	.30	.20
M 2	2 Watt	1$\frac{13}{16}$" x $\frac{11}{32}$"	.40	.30

Type M ¼ supplied with No. 21 tinned copper wire leads 1½" long; all other M types supplied with No. 20 wire.

CONTINENTAL D-Type
Insulated Composition Resistors

The D-Type resistor with radial leads is made with solid molded carbon rods, copper sprayed on the ends to which are soldered No. 18 copper tinned leads. The soldered contact construction gives a resistor noise-free and stable. They are known as the heavy duty type units because of their size—having a larger radiating area they operate safely on overloads. A baked-on insulation is a protection against shorts to subpanel and wiring.

			List Price —Tolerance—	
Type	**Wattage**	**Size**	**±5%**	**±10%**
D 3	3 Watt	2" x ⅜"	$0.50	$0.30
D 5	5 Watt	3" x $\frac{9}{16}$"	.75	.50
D 5ST2*	5 Watt	3" x $\frac{9}{16}$"	1.25	1.00

*D5ST2 units have heavy copper eyeletted and soldered strap terminals ⅜" wide with holes of 2$\frac{9}{16}$" spacing. The outer holes can be used with either 6-32 screw mounting or solder wire loops, while the inner holes are for 8-32 screw mounting. The outer section of the terminal can be cut off or bent to any angle desired.

One Large 4-Drawer Imitation Leather Cardboard Cabinet and One Valuable Resistor Chart that tells what resistor to use with purchase of 70 Continental Certified Resistors FREE

TOTAL VALUE COMPLETE $15.95—**YOUR PRICE $7.77**

You get a four-drawer resistor cabinet 10" x 6" x 7" finished in olive green with a big stiff cardboard wall chart which solves every problem in Ohms Law at a glance. The chart is an invaluable aid in resistor service problems as are Continental Certified Resistors.

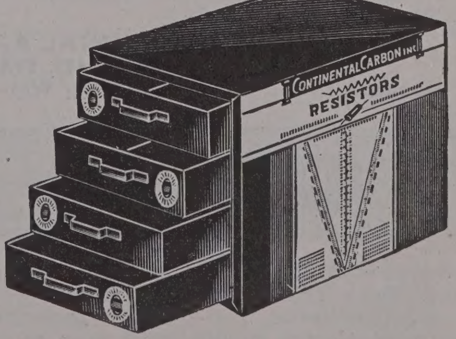
One each of these 35 resistors in 1 watt and 1 each in ½ watt supplied in the following values:

150	1,000	2,500	5,000	10,000	20,000	50,000	150,000
250	1,500	3,000	6,000	12,500	25,000	60,000	250,000
400	1,750	3,500	7,500	15,000	30,000	75,000	300,000
500	2,000	4,000	8,500	17,500	40,000	100,000	500,000

1, 2, and 3 megohms

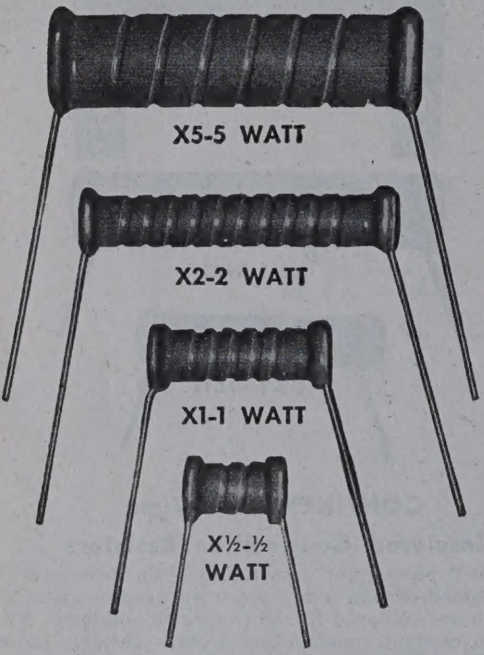
Code	**List Price**
777M—70 M-Type resistors with Cabinet and Chart	$12.95

Lucky Sevens "777" Cabinet Deal



CONTINENTAL RESISTORS

X-Type Resistors



After several years of research work CONTINENTAL engineers have developed a new resistor involving the metal film principle, having the accuracy of a wire wound unit. Absolutely no carbon whatever is used in the fabrication of these resistors. The metallic resistance film is formed on the surface of a low loss ceramic tube using a patented pyrochemic process.

The metal film thus formed is hermetically sealed by a layer of vitreous enamel specially developed and patented by CONTINENTAL. The ceramic tube with its associated film is then spiralled to give a long resistance path and to accurately calibrate the unit to value.

Since the ceramic tubes are hollow they allow a larger surface for heat radiation, thus permitting the resistor to withstand overloads of 200% or better.

The copper-tinned lead terminals are soldered to extremely low resistance metal contact films which in turn are integral with the resistance film, thereby reducing contact resistance to a minimum. This type of construction produces a resistor unit having not only excellent resistance stability but also a negligible noise characteristic.

Electrical Characteristics of X-Type Resistors

The voltage coefficient, humidity and shelf life characteristics are practically zero and can be disregarded.

The temperature coefficient of resistance is minus 0.0005 per degree Centigrade.

The noise characteristic is very low, being equal to that of wire wound resistors. Noise tests made in accordance with the standard RMA procedure will show a noise level not exceeding one quarter microvolt per volt!

The change in resistance due to normal life load does not exceed more than 0.5% in 1000 hours.

Fields of Application for the X-Type Resistor

The X-type precision resistor is ideally suited for vacuum tube voltmeters, oscillator and photo-electric circuits where stability of calibration is of utmost importance.

In the meter manufacturing field, where accuracy and stability consistent with low cost are desired, the excellent performance of the X-type resistor cannot be matched.

In high gain amplifier circuits where a low noise level is of paramount importance the X-type resistor, due to its inherent low noise characteristic, can be relied upon to give unquestioned performance.

This newly developed resistor unit is ideal for high voltage applications. Where the wattage rating is not exceeded, the X1½ type, ½ watt size, will stand as high as 500 volts AC; the X1, 1 watt size, 1000 volts; the X2, 2 watt size, 2000 volts; and the X5, 5 watt size, 2500 volts.

In the relatively new television field this resistor will be relied upon to perform a myriad of circuit functions in order to insure trouble free performance.

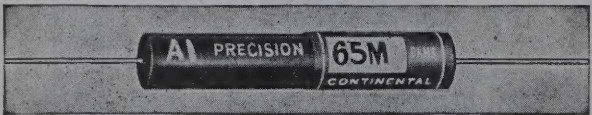
				List Prices		
Type	**Wattage**	**Size**	**Values**	**±1% Tolerance**	**±2% Tolerance**	**±5% Tolerance**
X-½	½ Watt	$\frac{9}{32}$" x ⅝"	1 ohm to 1 megohm	$1.75	$1.50	$1.25
X-1	1 Watt	$\frac{9}{32}$" x 1"	1 ohm to 1 megohm	1.75	1.50	1.25
X-2	2 Watt	$\frac{9}{32}$" x 1¾"	4 ohm to 5 megohm	1.75	1.50	1.25
X-5	5 Watt	½" x 2"	5 ohm to 15 megohm	2.25	2.00	1.75

No. 20 tinned copper leads 1½" long.

CONTINENTAL A-Type Precision Carbon Resistors

MADE IN ALL STANDARD STOCK RESISTOR VALUES

Available in: **Type A½—½ Watt—1" x ¼" dia.** **Type A1—1 Watt—1½" x ¼" dia.**



	List Price
Types A1 and A½—Tolerance ±2%	**$0.50**
Types A1 and A½—Tolerance ±5%	**.30**
Also made in Type **D1—1 Watt—Ceramic—Tolerance ±5%**	**.30**

A new type of carbon resistor, impregnated, hermetically sealed in glass, impervious to moisture, of the utmost stability. The A Type sets a new high standard of perfection for precision applications. Suitable for any 1-watt or ½-watt application, the A type is particularly recommended for high resistance voltmeter multipliers, critical photo-electric circuits which must be extremely stable, and in military and naval applications where the dependability of each component is most vital.

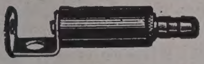
CONTINENTAL SUPPRESSORS

AUTO-RADIO SUPPRESSORS AND FILTER UNITS

CONTINENTAL Suppressors have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and high-tension distributor—yet do not in any way affect the motor car ignition system.

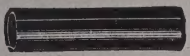
They have mechanical strength to stand the most severe service. The resistance value has been scientifically determined and is not changed after years of the most adverse conditions. Sparking across the terminals is eliminated by careful shaping of the electrodes and cases.

Spark Plug Suppressors and Distributor Suppressors, Each—List Price $0.30

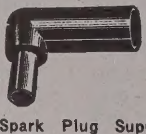


Code S-21 Universal Spark Plug Suppressor—with "U" terminal. 5000 ohms.

Code S-27 Suppressor—Thread will fit all spark plugs. Most universal type yet devised. Ferrule nut is removable. 5000 ohms.



Code C-11 Cable Suppressor—Meets requirements where it is necessary to cut ignition cable. 10,000 ohms.

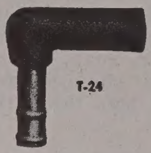


Code S-20A Spark Plug Suppressor — For Buick, Packard and Chrysler cars. Takes place of terminal on ignition cable. 5000 ohms.

CONTINENTAL

Code S-19 Spark Plug Suppressor—Snaps on to spark plug. 5000 ohms. Vertical mounting.

Cide T-20 Distributor Suppressor—Cable clip snaps into suppressor. 10,000 ohms. Not necessary to remove clip on cable and therefore suppressor can be quickly removed for ignition testing purposes.



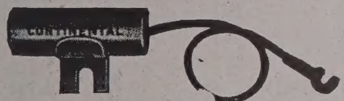
Code T-24 Distributor Suppressor — Is an angle type with screw in cable. The spring brass insert has two rolled bosses, one to hold suppressor rigid and the other to snap into the groove of the distributor well.

Ford Distributor Suppressor

T-17

Code T-17 Distributor Suppressor—For Ford V-Eights is a Universal Type. The resistor brush is fitted into a bakelite sleeve. The resistor brush can be used on some distributors without the sleeve.

CONTINENTAL Auto-Radio Filter Condensers



GB05

GB05F

This line of equipment has been specially designed to give the serviceman a means of easily eliminating every cause of noise interference in auto-radio installation—at the actual source of interference.

Code	Application	Capacity	Size	List Price
GB05	Generator and coil	.5 mfd	2⅛" x ¾"	$0.60
GB05F	Ford V-8 coil	.5 mfd	2⅛" x ¾"	.75

CONTINENTAL Paper Condensers

FOR REPLACING ELECTROLYTICS IN CARDBOARD AND METAL CASES

CONTINENTAL Carbon Model E condensers are high quality, paper dielectric capacitors built in shapes and sizes equivalent to electrolytic capacitors commonly found in radio receivers. They are flash tested at 3 times their d-c working voltage and have the advantage of low power factor at 60 cycles. They are non-inductive, non-polarized, and are of permanent capacity. No active chemicals are used which could cause corrosion of the foil or leakage. The tabulations at right show the actual capacity in microfarads and the rated sizes of electrolytic condensers occupying the same dimensions. Recommended for use on d.c. and rectified a.c. only. Model E, d-c working volts, 600; peak volts, 1000.

CONTINENTAL RADIO CARBON INC.
PAPER CONDENSER
CONTINENTAL CARBON, INC.

Data and Prices on Model E Condensers

Cardboard Containers

Furnished with Six-Inch Wire Leads

E-Type 600 Volts dc Code	List Price	Capacity in Mfds.	Equivalent Electrolytic	Size of E Condensers in Inches
EE2	$1.15	1.2	2	4⅜x1⅜x $\frac{11}{16}$
EE4	1.40	2.4	4	4⅜x1⅜x $\frac{15}{16}$
EE8	1.80	4.8	8	4⅜x1⅜x1⅛

Condensers in Metal Cans

Inverted Stud Mounting, Six-Inch Leads

Insulated from Can

1E4	$1.70	2.4	4	3⅜x1⅜ Dia.
1E8	2.00	4.8	8	4⅜x1½ Dia.

CONTINENTAL FILTERNOYS

For Elimination of Electrical Radio Interference

Filternoys units reduce or eliminate man-made static! With the development of ultra sensitive receivers, the problem of interference elimination has become a major factor in the sale and servicing of these radios. Vacuum sweepers, electric refrigerators, cake mixers, and other kitchen gadgets, electric shavers, sewing machines, and a host of other items all contribute their share to spoiling good reception. Every buzz, snap, or crackle heard on a new radio lessens the chances of a sale, but these same disturbances open the path for the alert dealer to sell **"noise elimination service"** along with the radio—and at a profit!

The offices of doctors, lawyers, dentists, and professional men—where radio provides entertainment and relaxation for waiting clientele—offer a lucrative market to radio servicemen who have the ability to locate man-made radio interference and quiet it with CONTINENTAL CARBON Filternoys devices. **Filternoys** are simple to install and profitable to sell. Never be without them in stock.

Filternoys F01DH

Most Popular and Universal Plug-in Type

for Radios and Electric Razors

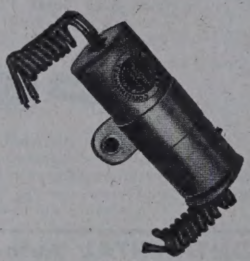
F01DH

Handy plug-in type suppressor with two r-f chokes, two condensers, and a ground lead for use on electrical devices of 300 watts or less, creating interference of intermittent or temporary character, such as a sewing machine motor, small electric washing machines, electric shavers, drink mixers, cash registers, adding machines, or electric typewriters. Size 2⅝″ by 1⅜″ diameter. 300-Watt capacity on 120 volts, a.c. or d.c.

Filternoys F01DH.................................List Price $1.20

Filternoys G01DH

Suppression Type



G01DH

A wire-in suppressor with dual chokes and two condensers with a grounded frame. Suitable for equipment having grounded frame or a connection to metal BX wiring conduit. For diathermy and dental machines where the G01DH unit may be mounted within the interfering device and for small motors of exhaust fans, pumps, and compressors. Size 2¼″ by 1¼″ diameter, 6-inch leads, 300 watts, a.c. or d.c., 110-130 v.

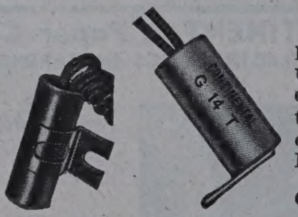
Filternoys G01DH.................................List Price $1.20

Filternoys G01D and G14T

Designed to Be Mounted Directly on Small Electrical Devices

Filternoys Diverter G01D—Dual capacitors in a grounded container for any size electric motor operating on 120 v. or less. Through making use of the field coils as chokes, this is a most effective method to silence a noisy a.c. or d.c. motor. Size 2⅛″ by ¾″ diameter.

G01D.......................................List Price $0.60



Filternoys Diverter G14T—Triple capacitors in a circuit which permits its use with all hand-operated motor driven devices without danger of shock. Particularly applicable to vacuum cleaners, flat-irons, etc. Size 1½″ by ⅝″. Flexible leads for direct connection.

G14T.................................List Price $0.60

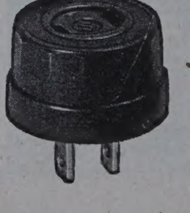
Oil Burner Suppressor

Filternoys Suppressor OB15, carbon element type, intended for use only with the high tension spark ignition of oil or gas burning heating systems. Must be connected in series with each line to the spark gap. Size of the suppressor 3½″ x $\frac{13}{16}$″ diameter. Universal connections at both ends for solderless contact.

OB15.............................List Price $1.80

FREE! Attractive Counter Display Card with 24-F18 Filternoys

Code 24-F18—List Price $14.40



Filternoys Diverter F18 is a compact 0.1 mfd capacitor in a conveniently small bakelite plug-in coupler for use across domestic power lines in which the neutral wire is grounded. The capacitor diverts interference from the high potential side of the power line to the grounded neutral side. Use on floor or table lamps, cigarette lighters, and the radio.

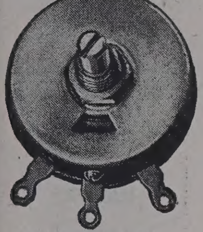
F18.....................................List Price $0.60

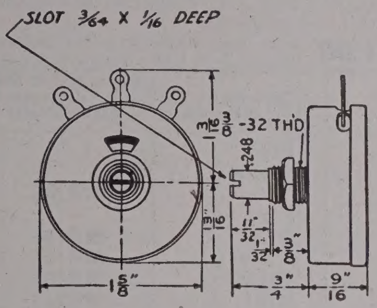
P. R. MALLORY & CO. Inc.
MALLORY

Standard Controls

COMMERCIAL, INDUSTRIAL AND EQUIPMENT TYPE POTENTIOMETERS AND RHEOSTATS

"M" Type Variable Resistor and Potentiometer

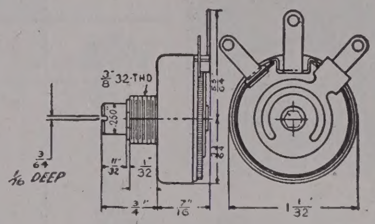


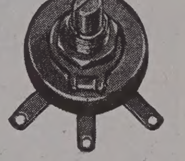


Dissipates 4 Watts — Insulated Contact Arm. Use Dial Plate No. 395. 294° total rotation; 279° effective electrical rotation. Prices include one No. 232 Nut.

Ohms Resistance	Carrying Capacity in Amps.	Potentiometer Cat. No.	List Price	Rheostat* Catalog Number	Price
½	2.80	....	....	**M05R**	**$0.75**
1	2.00	....	....	**M1R**	**.75**
2	1.4	....	....	**M2R**	**.75**
3	1.15	....	....	**M3R**	**.75**
4	1.00	....	....	**M4R**	**.75**
6	.82	....	....	**M6R**	**.75**
10	.63	....	....	**M10R**	**.75**
15	.52	**M15P**	**$1.00**	**M15R**	**.75**
20	.45	**M20P**	**1.00**	**M20R**	**.75**
25	.40	**M25P**	**1.00**	**M25R**	**.75**
30	.37	**M30P**	**1.00**	**M30R**	**.75**
40	.32	**M40P**	**1.00**	**M40R**	**.75**
50	.28	**M50P**	**1.00**	**M50R**	**.75**
60	.26	**M60P**	**1.00**	**M60R**	**.75**
75	.23	**M75P**	**1.00**	**M75R**	**.75**
100	.20	**M100P**	**1.00**	**M100R**	**.75**
200	.14	**M200P**	**1.00**	....	....
400	.10	**M400P**	**1.00**	....	....
500	.09	**M500P**	**1.00**	....	....
600	.082	**M600P**	**1.00**	....	....
1M	.063	**M1MP**	**1.25**	....	....
2M	.045	**M2MP**	**1.25**	....	....
3M	.037	**M3MP**	**1.25**	....	....
4M	.032	**M4MP**	**1.25**	....	....
5M	.028	**M5MP**	**1.25**	....	....
10M	.020	**M10MP**	**1.50**	....	....
15M	.016	**M15MP**	**1.50**	....	....
20M	.014	**M20MP**	**1.50**	....	....
25M	.013	**M25MP**	**1.50**	....	....
50M	.009	**M50MP**	**2.00**	....	....
70M	.0075	**M70MP**	**2.00**	....	....

"C" Type Variable Resistor and Potentiometer



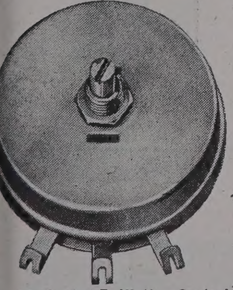


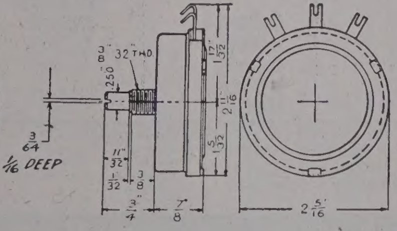
Dissipates 2 Watts—Grounded Contact Arm. Use Dial Plate No. 393. 284° total rotation; 266° effective electrical rotation. Prices include one No. 232 Nut.

Ohms Resistance	Carrying Capacity in Amps.	Potentiometer Cat. No.	List Price	Rheostat* Catalog Number	List Price
6	.58	**C6P**	**$1.00**	**C6R**	**$0.75**
10	.45	**C10P**	**1.00**	**C10R**	**.75**
15	.37	**C15P**	**1.00**	**C15R**	**.75**
20	.32	**C20P**	**1.00**	**C20R**	**.75**
30	.26	**C30P**	**1.00**	**C30R**	**.75**
40	.22	**C40P**	**1.00**	**C40R**	**.75**
50	.2	**C50P**	**1.00**	**C50R**	**.75**
100	.14	**C100P**	**1.00**	**C100R**	**.75**
200	.1	**C200P**	**1.00**	....	....
400	.07	**C400P**	**1.00**	....	....
1M	.045	**C1MP**	**1.25**	....	....
3M	.025	**C3MP**	**1.25**	....	....
5M	.02	**C5MP**	**1.50**	....	....
6M	.018	**C6MP**	**1.50**	....	....
10M	.014	**C10MP**	**1.50**	....	....
15M	.011	**C15MP**	**1.50**	....	....

*"Open" or "off" position counter-clockwise.

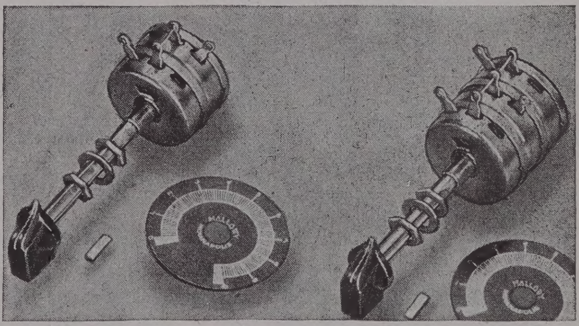
"E" Type Potentiometer





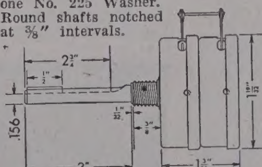
Dissipates 7 Watts—Contact Arm Grounded. Use Dial Plate No. 399. 310° total rotation; 299° effective electrical rotation. Prices include one No. 232 Nut.

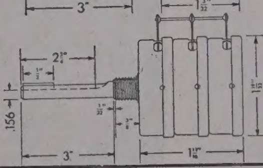
Ohms Resistance	Carrying Capacity in Amps.	Catalog Number	List Price	Ohms Resistance	Carrying Capacity in Amps.	Catalog Number	List Price
5M	.042	**E5MP**	**$2.50**	75M	.011	**E75MP**	**$2.75**
10M	.03	**E10MP**	**2.50**	100M	.0095	**E100MP**	**2.75**
20M	.021	**E20MP**	**2.50**	125M	.0085	**E125MP**	**2.75**
25M	.019	**E25MP**	**2.75**	150M	.0078	**E150MP**	**2.75**
50M	.0135	**E50MP**	**2.75**				



● These attenuators have a continuous D. C. dissipation rating of 4 watts in any position. They may be used with audio amplifiers having a peak audio rating of 15 watts.

Individually cartoned complete with No. 366 Bar Knob, No. 395 Dial Plate with matched rotation, two No. 232 Mounting Nuts, and one No. 225 Washer. Round shafts notched at ⅜" intervals.





"T" PAD ATTENUATORS

Ohms Impedance	Catalog Number	List Price
6	**T6**	**$5.00**
8	**T8**	**5.00**
15	**T15**	**5.00**
50	**T50**	**5.00**
200	**T200**	**5.00**
250	**T250**	**5.00**
500	**T500**	**5.00**
2000	**T2000**	**5.00**

"L" PAD ATTENUATORS

Ohms Impedance	Catalog Number	List Price
6	**L6**	**$3.50**
15	**L15**	**3.50**
50	**L50**	**3.50**
200	**L200**	**3.50**
250	**L250**	**3.50**
500	**L500**	**3.50**
2000	**L2000**	**3.50**

P. R. MALLORY & CO. Inc.
MALLORY

Standard Controls

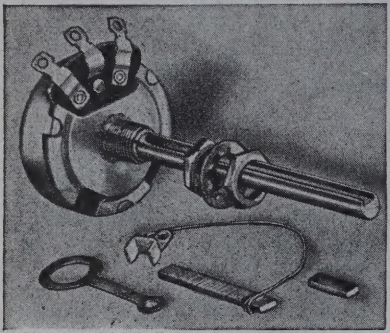
UNIVERSAL SINGLE REPLACEMENT CONTROLS
(CARBON)

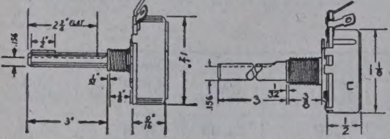
• Fixed Shaft types MR and Standard 1½″ diameter controls employ the channel shaft and insert to fit all type knobs. Type MK employs a 3″ universal knurled shaft for use in replacing original controls of this construction. Plug-In Type UM is used with the proper type SS shaft selected for the individual application. Two No. 232 nuts, one No. 227 washer, and a ground terminal are included. See pages L-30 and L-31 for complete information on plug-in shafts, attachable switches, and accessories.

LIST PRICE **$1.00** each (less attachable switch and accessories)
Plug-In Type UM is supplied less shaft.

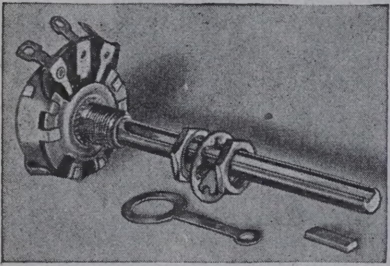
Ohms Resistance	Taper	Standard 1½″ diameter	Types MR & MK 1⅛″ diameter (Fixed Shaft)	Type UM 1⅛″ diameter (Plug-In)
5M	1	**E12§**		
5M	4	**Y5MP**		
5M	4A		**MR14§**	**UM114§**
7500	1	**F12§**		
10M	1	**G12§**	**MR18§**	**UM118§**
10M	2	**UC501§**	**MR19§**	**UM119§**
10M	4	**Y10MP**	**MR20§**	**UM120§**
15M	1	**H12§**	**MR21§**	**UM121§**
15M	2		**MR22§**	**UM122§**
20M	1	**Y§**	**MR24§**	**UM124§**
25M	2	**J§**	**MR28§**	**UM128§**
25M	4	**Y25MP**	**MR29§**	**UM129§**
50M	1	**K12**	**MR33**	**UM133**
50M	2	**K§**	**MR34§**	**UM134§**
50M	4	**Y50MP**	**MR35**	**UM135**
75M	1	**Z12**	**MR36**	**UM137**
75M	2	**Z§**	**MR37**	**UM138**
100M	1	**L**	**MR39**	**UM140** **UM143***
100M	2	**UC510§**	**MR40**	**UM141**
100M	4	**Y100MP**	**MR41**	**UM142**
100M	Spec.			**UM180‡**
150M	1	**UC502**	**MR42**	**UM144**
200M	4	**Y200MP**		
250M	1	**M** **UC511†**	**MR44** **MK400**	**UM147** **UM150***
250M	2	**UC509§**	**MR45**	
250M	4	**Y250MP**		**UM149**
350M	1			**UM151**
500M	1	**N** **UC512†**	**MR48** **MK401**	**UM154** **UM157***
500M	2	**UC513**		
500M	4	**Y500MP**	**MR50**	**UM156**
750M	1	**UC503**	**MR51**	**UM158**
1 Meg.	1	**O** **UC514†**	**MR53** **MK402**	**UM161** **UM162***
1 Meg.	2			**UM160**
1 Meg.	4	**Y1000MP**		
2 Meg.	Spec.			**UM181‡**
2 Meg.	1	**P**	**MR55** **MK403**	**UM163**
3 Meg.	1	**UC504**	**MR57**	**UM165**
4 Meg.	1	**UC505**		
5 Meg.	1	**UC506**		
5 Meg.	2	**UC507**		
9 Meg.	1	**UC508**		

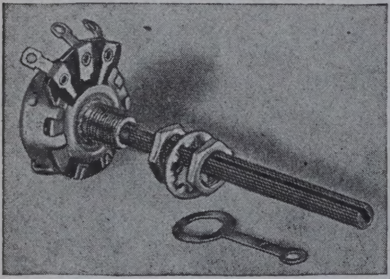
* Clutch type controls—no provision for attachable switch.
† Has slotted shaft for automobile receivers.
‡ Right hand switch action.
§ External adjustable resistor included.

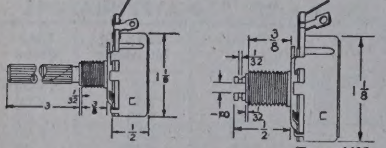

Standard 1½″ dia.



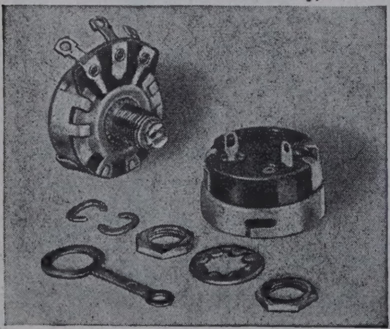
Type MR

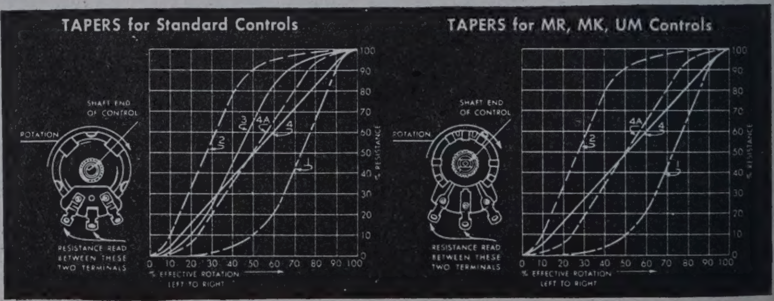



Type MK



Type UM




TAPERS for Standard Controls

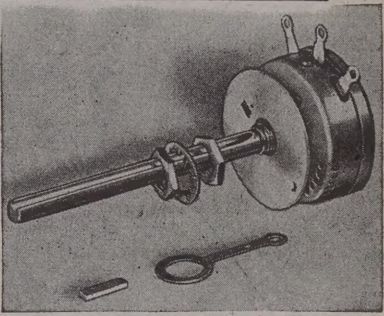
TAPERS for MR, MK, UM Controls
SHAFT END OF CONTROL
ROTATION
RESISTANCE READ BETWEEN THESE TWO TERMINALS
1
2
3
4A
4
0
10
20
30
40
50
60
70
80
90
100
% EFFECTIVE ROTATION LEFT TO RIGHT
% RESISTANCE
SHAFT END OF CONTROL
ROTATION
RESISTANCE READ BETWEEN THESE TWO TERMINALS
1
2
4A
4
% EFFECTIVE ROTATION LEFT TO RIGHT
% RESISTANCE

Standard Controls

P.R. MALLORY & CO. Inc.
MALLORY

UNIVERSAL SINGLE REPLACEMENT CONTROLS

(WIRE-WOUND)

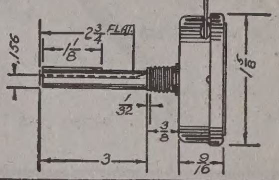


- Mallory Universal Wire Wound Controls are supplied with the universal channel shaft and insert. Two No. 232 nuts, one No. 227 washer, and a ground terminal are included. Nominal rating of wire wound types is 4 watts.

LIST PRICE **$1.00** each (less attachable switch and accessories)

Ohms Resistance	Taper	Catalog Number	Ohms Resistance	Taper	Catalog Number
2	4	**Q**	2000	4	**A2MP§**
6	4	**R**	3000	1	**D12§**
10	4	**S**	3000	2	**D§**
20	4	**T**	3000	4	**A3MP§**
30	4	**U**	3000	7	**D7§**
60	4	**V**	5000	2	**E§**
100	4	**W**	5000	4	**A5MP§**
200	4	**X**	5000	7	**E7§**
400	4	**A400P**	7500	2	**F§**
500	1	**A**	7500	7	**F7§**
550	4	**A550P**	10000	2	**G§**
1000	1	**B**	10000	4	**A10MP§**
1000	2	**UC500**	10000	7	**G7§**
1000	4	**AIMP**	15000	2	**H§**
2000	1	**C12§**	15000	7	**H7§**
2000	2	**C§**	20000	4	**A20MP§**

§ Have exclusive Mallory adjustable bias feature.



EXPLANATION OF TAPERS

Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire wound type. This taper should always be used in shunt circuits as in usual antenna and audio circuits, or where only the center and left hand terminals are used.

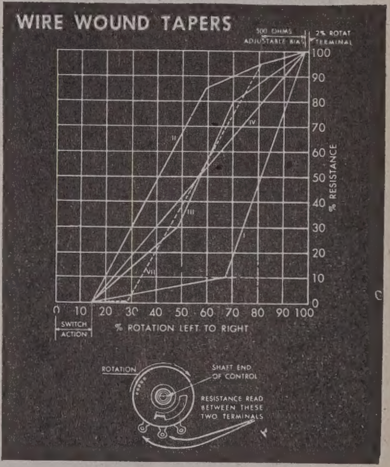
Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.

Taper Number 3 is a combination left and right hand taper. Has a limited use in circuits where the control must perform both as a shunt and as a series circuit control as in combination antenna shunt plus bias circuits. This is the most common use for such a taper.

Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage is proportional to the degree of rotation.

Taper Number 4A is a modification of the regular linear taper Number 4.

Taper Number 7 is made only in the wire wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.



UNIVERSAL TAPPED REPLACEMENT CONTROLS

- Plug-In Tapped Controls types TM and DTM are used with the proper SS shaft selected for the individual application. The Standard 1½" diameter Tapped Controls (type TRP) are supplied with the universal channel shaft and insert. See pages L-30 and L-31 for complete information on plug-in shafts, attachable switches and accessories. Prices do not include switch or accessories. Two No. 232 nuts, one No. 227 washer and a ground terminal are included.

TM and DTM Types, List Price **$1.25**   TRP Type, List Price **$1.50**

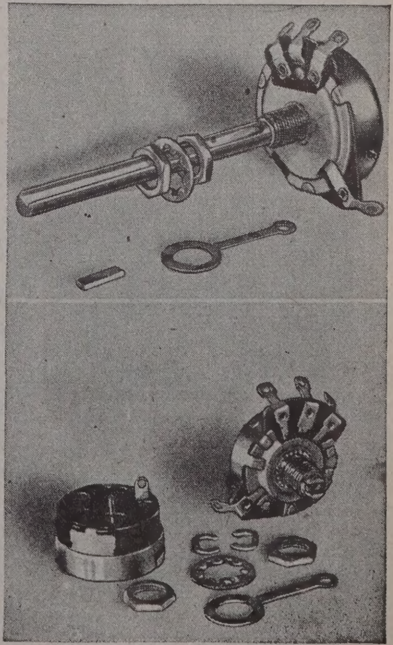
SINGLE TAP

Overall Resistance	Tap Resistance	Standard (1½" dia.)	Type TM (1⅛" dia.) (Plug-In)	Overall Resistance	Tap Resistance	Standard (1½" dia.)	Type TM (1⅛" dia.) (Plug-In)
40M	8M	**TRP601**		1 Meg.	200M	**TRP608**	**TM240** **TM241***
60M	4M	**TRP602**		1 Meg.	300M		**TM238** **TM239***
60M	12M	**TRP617**		1 Meg.	450M		**TM242*** **TM243**
250M	50M	**TRP623**	**TM220**	1 Meg.	500M	**TRP609††**	
250M	110M	**TRP603**	**TM221** **TM222***	1.5 Meg.	200M		**TM244**
350M	20M	**TRP604**		2 Meg.	5M		**TM245**
350M	70M	**TRP605** **TRP614†**	**TM225** **TM223***	2 Meg.	15M	**TRP612**	**TM246**
500M	5M		**TM228**	2 Meg.	60M		**TM247**
500M	15M		**TM226**	2 Meg.	125M		**TM250**
500M	60M	**TRP616**	**TM233**	2 Meg.	250M	**TRP618**	**TM248**
500M	100M	**TRP606**	**TM224*** **TM227**	2 Meg.	400M	**TRP613**	**TM254**
500M	150M		**TM230**	2 Meg.	600M		**TM249**
500M	225M	**TRP607**	**TM231** **TM232***	2 Meg.	900M	**TRP620**	**TM251** **TM252***
1 Meg.	30M	**TRP610**		2 Meg.	900M		**TM259**
1 Meg.	65M		**TM234**	3 Meg.	900M	**TRP615**	**TM257**
1 Meg.	125M		**TM236**				

* Clutch type controls—no provision for attachable switch. † Has slotted shaft for automobile receivers
†† Special taper for fader service.

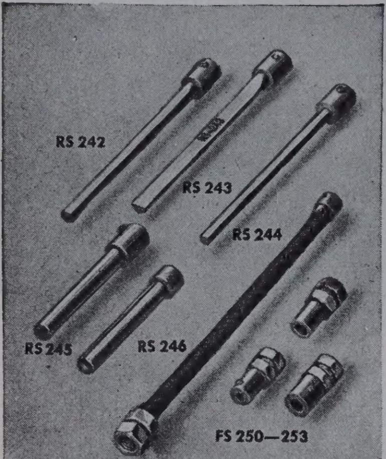
DOUBLE TAP

Overall Resistance	Tap Resistance		Standard 1½" dia.	Type DTM (1⅛" dia.) Plug-In	Overall Resistance	Tap Resistance		Standard 1½" dia.	Type DTM (1⅛" dia.) Plug-In
	Tap 1	Tap 2				Tap 1	Tap 2		
44M	7M	14M	**TRP622**		2 Meg.	5M	500M		**DTM293**
250M.	50M	100M		**DTM282**	2.25 Meg.	250M	500M	**TRP621‡** **TRP624**	**DTM295**
500M	100M	200M	**TRP619**						
1 Meg.	50M	100M		**DTM287**	2.25 Meg.	500M	1 Meg.		**DTM296**
1 Meg.	250M	500M		**DTM289**	3 Meg.	100M	1.5 Meg.		**DTM298**
1.5 Meg.	225M	500M		**DTM291**	‡No provi	sion for	switch.		

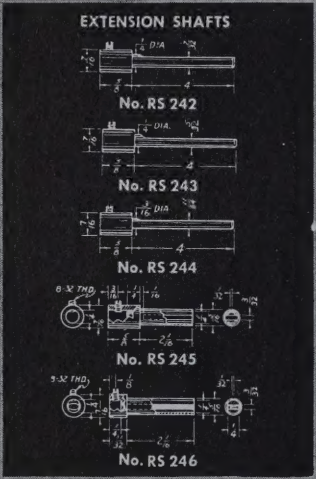


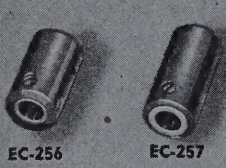
Standard Controls

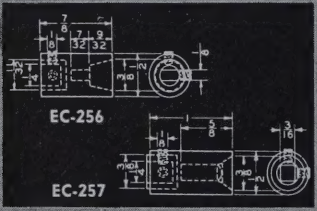
REPLACEMENT CONTROL ACCESSORIES

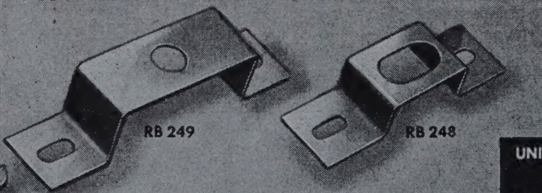


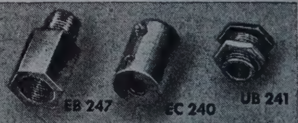
Marking	For Type of Control	Dia.	Cat. No.	List Price
Etched Dial Plates for Controls, Rheostats and Potentiometers				
0 to 10	For Standard Carbon Controls with switch type cover	2¼″	398	$0.25
0 to 10	For Standard Carbon Controls with plain cover	2¼″	397	.25
0 to 10	For Standard Wire Wound Controls with switch type cover	2¼″	396	.25
0 to 10	For Standard Wire Wound Controls with plain cover; also "M" Type Rheostats and Potentiometers	2¼″	395	.25
0 to 10	For "C" Type Rheostats and Potentiometers	2¼″	393	.25
0 to 10	For "E" Type Potentiometers	2¼″	399	.25
0 to 100	All Rheostats and Potentiometers (compromise scale)	2¼″	369	.25
Increase Volume	All Rheostats and Potentiometers	1½″	391	.15
Universal Extension Shafts:				
	4″ long x ¼ dia. x 1/32″ flat		RS242*	.30 ea.
	4″ long x ¼″ dia. x 3/32″ flat		RS243*	.30 ea.
	4″ long x 3/16″ dia. x 1/64″ flat		RS244*	.30 ea.
	2″ long x ¼″ dia. with 3/32″ slot (Enclosed in tight-fitting tube) For adapting Universal Controls to automobile receivers when slotted shaft is needed.		RS245*	.35 ea.
	2″ long x ¼″ wide x 3/32 thick (Tongue shape and fitted with tube) For adapting Universal Controls to automobile receivers where tongue-shaped shaft is needed.		RS246*	.35 ea.
			*Packed 5 to	Envelope
Universal Flexible Coupling Shafts:				
	For Universal replacement of all flexible wire shafts, coupling to ¼″ solid shafts		FS250	.60
	Shaft Coupling has 7/32″ hole, ½″ deep, with transverse pin, and is for use (with the correct Mallory control) as a replacement for Philco Models 805, 806, 808, 809 and PHD and PHXD, Studebaker AC266, Pierce-Arrow MT-3, Reo RT-3, etc		FS251	.60
	Shaft Coupling has 5/32″ hole, approximately ½″ deep, and has 2 set screws opposite each other. It is used as a replacement for Philco Model D, Nash AC-989 (Code 122)		FS252	.60
	Shaft Coupling has ¼″ dia. hole, ½″ deep, equipped with 2 screws at 90 degrees. This is to be used with the correct Mallory Control as a replacement for Chevrolet No. 364441		FS253	.60
Universal Combination Extension Shaft Coupling and Reducer:				
	Will couple two ¼″ shafts or one ¼″ shaft and one 3/16″ shaft		EC240	.25
Universal Insulated Shaft Couplers:	Designed to connect fixed shaft controls to remote drive couplings popular in automotive radio equipment.			
	Slotted Insacup		EC256	.25
	Square Insert Insacup (Motorola type)		EC257	.25
Universal Extension Bushing:				
	Designed to screw on the present bushing of Mallory controls and switches, so that the body of the control or switch will be held ⅝″ away from the mounting surface. For example, it is used with the correct Universal Control to service Philco Models 28, 29, 45 and 45C		EB247	.20
Universal Bushing and Nut:				
	Designed to accommodate ¼″ shaft wherever a panel bushing is desired. Includes one No. 232 nut		UB241 Packed 10 in	.75 for 10 Envelope
Hexagon Shoulder Mounting Nuts:				
	For ⅛″ Panels		255	.15
	For ½″ Panels		A11260-12	.20
	For ¾″ Panels		A11260-2	.25
Volume Control Wrench:				
	For all standard Volume Control Hexagon Nuts		178	.20
Adjustable Mounting Brackets:				
	1¾″ Mounting Centers		RB248†	.20 ea.
	2½″ Mounting Centers		RB249†	.20 ea.
			†Packed 5 to	Box



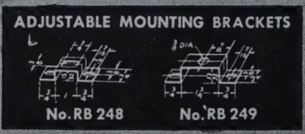


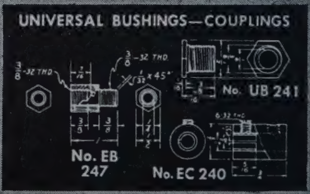






MALLORY
VOLUME CONTROL WRENCH





Standard Controls

P.R. MALLORY & CO. Inc.
MALLORY

Replacement Control Accessories

Plug-In Shafts for Use with Types UM, TM, and DTM Controls

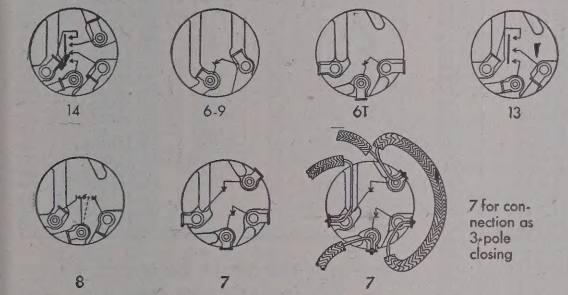
Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
SS1	$0.25	SS14	$0.35	SS24	$0.25
SS2	.25	SS15	.35	SS25	.25
SS3	.35	SS16	.25	SS26	.25
SS4	.25	SS17	.50	SS27	.25
SS5	.25	SS18	.25	SS28	.50
SS6	.25	SS19	.50	SS29	.25
SS10	.25	SS20	.50	SS30	.25
SS11	.35	SS21	.35	SS31	.25
SS12	.25	SS22	.25	SS32	.25
		SS23	.25		

Attachable Switches for 1½" Dia. Controls

For use with standard Universal Controls, Carbon and Wire Wound types, TRP Tapped Controls, and Universal Dual Controls.

Cat. No.	Circuit Arrangement	List Price
6–9	Single-Pole—Single-Throw	$0.50
*6T	Single-Pole—Single-Throw	.60
7	Double-Pole—Single-Throw	.60
8	Single-Pole—Double-Throw	.60
13	Three-Pole—Single-Throw Shorting	.60
14	Four-Pole—Single-Throw Shorting	.60

*Has dummy terminal identified by copper rivet.

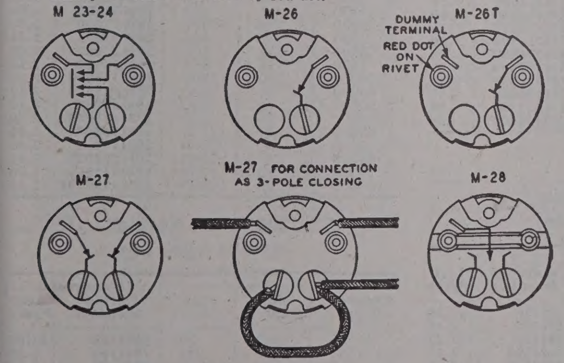

14
6-9
6T
13
8
7
7
7 for connection as 3-pole closing

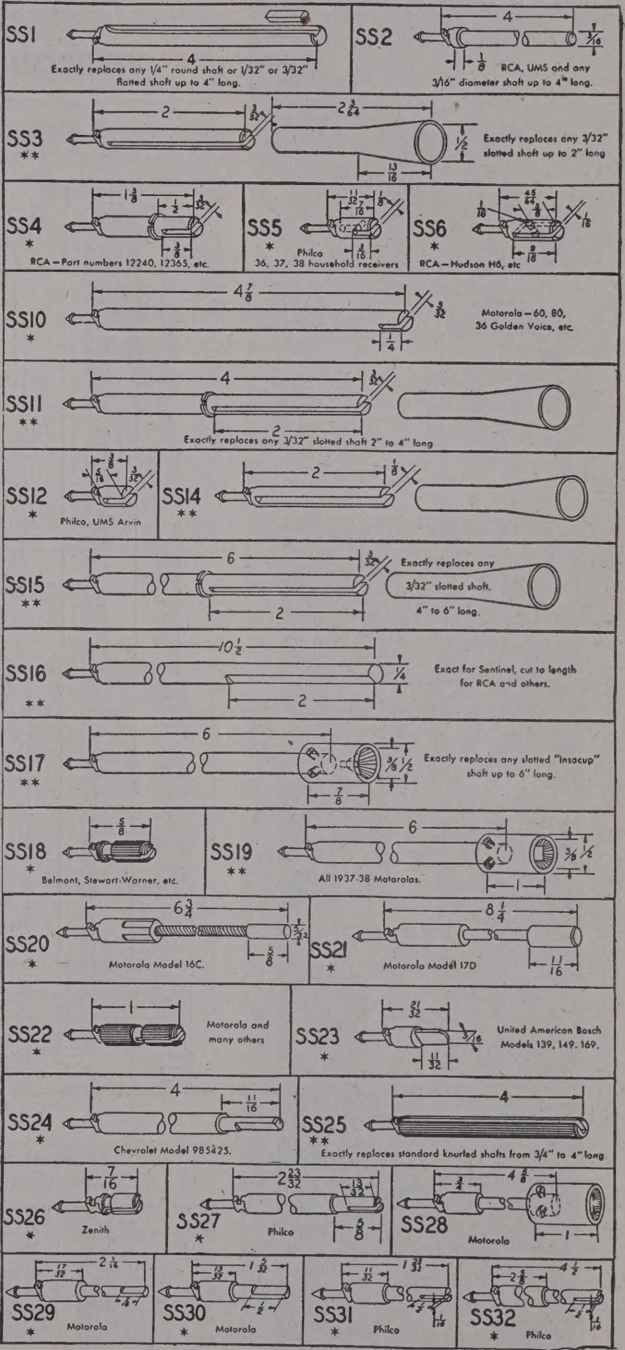
Attachable Switches for 1⅛" Dia. Controls

For use with MR, MK, UM, TM and DTM controls.

Cat. No.	Circuit Arrangement	List Price
M-26	Single-Pole—Single-Throw	$0.50
*M-26T	Single-Pole—Single-Throw	.60
M-27	Double-Pole—Single-Throw	.60
M-28	Single-Pole—Double-Throw	.60
M-23-24	Four-Pole—Single-Throw, Shorting	.60

*Has dummy terminal identified by red dot.


M 23-24
M-26
DUMMY TERMINAL
RED DOT ON RIVET
M-26T
M-27
M-27 FOR CONNECTION AS 3-POLE CLOSING
M-28


SS1
Exactly replaces any 1/4" round shaft or 1/32" or 3/32" flatted shaft up to 4" long.
SS2
RCA, UMS and any 3/16" diameter shaft up to 4" long.
SS3 **
Exactly replaces any 3/32" slotted shaft up to 2" long
SS4 *
RCA—Part numbers 12240, 12365, etc.
SS5 *
Philco 36, 37, 38 household receivers
SS6 *
RCA—Hudson H6, etc
SS10 *
Motorola—60, 80, 36 Golden Voice, etc.
SS11 **
Exactly replaces any 3/32" slotted shaft 2" to 4" long
SS12 *
Philco, UMS Arvin
SS14 **
SS15 **
Exactly replaces any 3/32" slotted shaft. 4" to 6" long.
SS16 **
Exact for Sentinel, cut to length for RCA and others.
SS17 **
Exactly replaces any slotted "Insacup" shaft up to 6" long.
SS18 *
Belmont, Stewart-Warner, etc.
SS19 **
All 1937-38 Motorolas.
SS20 *
Motorola Model 16C.
SS21 *
Motorola Model 17D
SS22 *
Motorola and many others
SS23 *
United American Bosch Models 139, 149, 169.
SS24 *
Chevrolet Model 985425.
SS25 **
Exactly replaces standard knurled shafts from 3/4" to 4" long.
SS26 *
Zenith
SS27 *
Philco
SS28
Motorola
SS29 *
Motorola
SS30 *
Motorola
SS31 *
Philco
SS32 *
Philco

*These Plug-in Shafts are designed as exact replacements for applications requiring a given predetermined length with special coupling slots or tongue or an insulated coupler. None of these require any cutting or special adjustment.
**These Plug-in Shafts are of universal length and designed for many applications.

Universal Dual Replacement Controls

Ohms Resistance		Taper		Type Element		General Use	Cat. No.	List Price
Front	Rear	Front	Rear	Front	Rear			
2M	5M	I	I	W.W.	W.W.	Ant. Shunt and Bias	CE	$2.50
10M	5M	VII	IV	W.W.	W.W.	Ant. Shunt Bias or Screen	GE	2.50
10M	10M	VII	IV	W.W.	W.W.	Ant. Shunt Bias or Screen	GG	2.50
10M	50M	I	IV	Carbon	Carbon	Ant. Shunt Bias or Screen	GK	2.50
50M	50M	IV	IV	Carbon	Carbon	Grid Shunt and Cathode Control	DRP 308	2.50

Ohms Resistance		Taper		Type Element		General Use	Cat. No.	List Price
Front	Rear	Front	Rear	Front	Rear			
100M	100M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	LL	$2.50
100M	250M	I	I	Carbon	Carbon	Audio Shunt, Tone, Screen or RF Shunt	LM	2.50
250M	250M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	MM	2.50
250M	500M	I	I	Carbon	Carbon	Audio Shunt and Tone Compensation	MN	2.50
500M	500M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	NN	2.50

P.R. MALLORY & CO. Inc.
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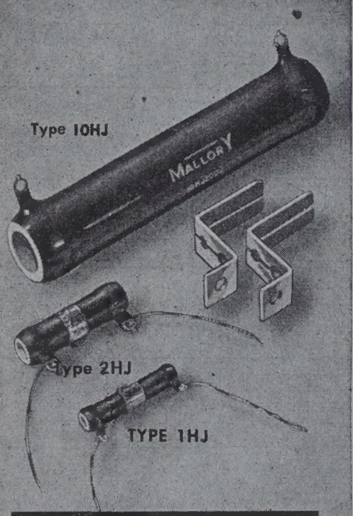
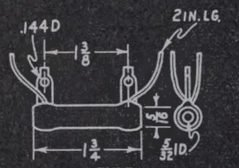
Power Resistors





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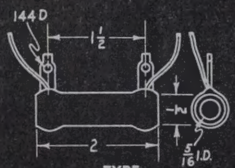

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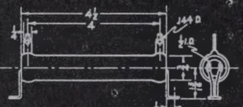

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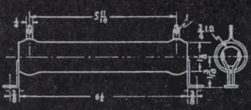

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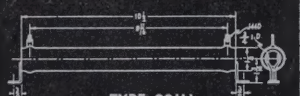
10HJ



TYPE 20HJ

VITREOUS ENAMELED FIXED RESISTORS

10 Watt Rating

Size: 5/16 x 1¾ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	3150	3	**1HJ1**	**$0.50**
2	2200	4.5	**1HJ2**	**.50**
3	1800	5.5	**1HJ3**	**.50**
4	1580	6.3	**1HJ4**	**.50**
5	1400	7	**1HJ5**	**.50**
7.5	1150	8.5	**1HJ7.5**	**.50**
10	1000	10	**1HJ10**	**.50**
12	910	11	**1HJ12**	**.50**
15	812	12	**1HJ15**	**.50**
20	707	14	**1HJ20**	**.50**
25	630	16	**1HJ25**	**.50**
30	575	17.3	**1HJ30**	**.50**
35	530	19	**1HJ35**	**.50**
40	500	20	**1HJ40**	**.50**
50	447	22	**1HJ50**	**.50**
75	360	27	**1HJ75**	**.50**
100	315	31	**1HJ100**	**.50**
125	280	35	**1HJ125**	**.50**
150	260	39	**1HJ150**	**.50**
200	220	44	**1HJ200**	**.50**
225	210	47.5	**1HJ225**	**.50**
250	200	50	**1HJ250**	**.50**
300	180	55	**1HJ300**	**.50**
350	170	59	**1HJ350**	**.50**
400	158	63	**1HJ400**	**.50**
450	150	67	**1HJ450**	**.50**
500	141	70	**1HJ500**	**.50**
600	130	77	**1HJ600**	**.50**
700	120	83.5	**1HJ700**	**.50**
750	115	85	**1HJ750**	**.50**
800	112	89	**1HJ800**	**.50**
900	105	95	**1HJ900**	**.50**
1000	100	100	**1HJ1000**	**.50**
1100	95	105	**1HJ1100**	**.50**
1200	91	110	**1HJ1200**	**.50**
1250	89	111	**1HJ1250**	**.50**
1500	81	122	**1HJ1500**	**.50**
1750	75.5	132	**1HJ1750**	**.50**
2000	70	141	**1HJ2000**	**.50**
2250	66.5	150	**1HJ2250**	**.50**
2500	63	158	**1HJ2500**	**.50**
3000	56	173	**1HJ3000**	**.50**
3500	53	185	**1HJ3500**	**.50**
4000	50	200	**1HJ4000**	**.50**
4500	47	212	**1HJ4500**	**.50**
5000	45	224	**1HJ5000**	**.50**
6000	40	240	**1HJ6000**	**.50**
7000	38	264	**1HJ7000**	**.50**
7500	36	270	**1HJ7500**	**.50**
8000	35	282	**1HJ8000**	**.50**
8500	34	291	**1HJ8500**	**.50**
10000	32	316	**1HJ10000**	**.50**
11000	18	195	**1HJ11000**	**.50**
12000	17	204	**1HJ12000**	**.50**
12500	16.5	210	**1HJ12500**	**.50**
13500	16	217	**1HJ13500**	**.50**
14300	15.5	224	**1HJ14300**	**.50**
15000	15	225	**1HJ15000**	**.50**
16000	14.8	236	**1HJ16000**	**.50**
17500	14.3	246	**1HJ17500**	**.50**
18000	14	250	**1HJ18000**	**.50**
20000	13	260	**1HJ20000**	**.50**
22500	12.5	280	**1HJ22500**	**.50**
25000	12	300	**1HJ25000**	**.50**

50 Watt Rating

Size: ¾ x 4½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
10	2240	22	**5HJ10**	**$1.35**
25	1415	35.4	**5HJ25**	**1.35**
50	1000	50	**5HJ50**	**1.35**
100	707	70	**5HJ100**	**1.35**
250	447	111	**5HJ250**	**1.35**
500	316	158	**5HJ500**	**1.35**
750	258	192	**5HJ750**	**1.35**
1000	224	224	**5HJ1000**	**1.35**
1500	183	275	**5HJ1500**	**1.35**
2000	158	316	**5HJ2000**	**1.35**
2500	141	354	**5HJ2500**	**1.35**
5000	100	500	**5HJ5000**	**1.35**
7500	81	610	**5HJ7500**	**1.50**
10000	70	700	**5HJ10000**	**1.50**
12500	63	790	**5HJ12500**	**1.50**
15000	57	850	**5HJ15000**	**1.50**
20000	50	1000	**5HJ20000**	**1.50**
25000	44	1100	**5HJ25000**	**1.50**
30000	26	774	**5HJ30000**	**1.75**
40000	22	894	**5HJ40000**	**1.75**
50000	20	1000	**5HJ50000**	**1.75**
75000	16	1223	**5HJ75000**	**1.75**
100000	14	1414	**5HJ100000**	**1.75**

20 Watt Rating

Size: ½ x 2 Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
5	2000	10	**2HJ5**	**$0.80**
10	1415	14	**2HJ10**	**.80**
15	1153	17	**2HJ15**	**.80**
25	895	22	**2HJ25**	**.80**
50	633	31	**2HJ50**	**.80**
75	517	38	**2HJ75**	**.80**
100	447	44	**2HJ100**	**.80**
150	365	54	**2HJ150**	**.80**
200	316	63	**2HJ200**	**.80**
250	283	72	**2HJ250**	**.80**
300	258	77	**2HJ300**	**.80**
400	224	90	**2HJ400**	**.80**
500	200	100	**2HJ500**	**.80**
750	163	122	**2HJ750**	**.80**
1000	141	141	**2HJ1000**	**.80**
1250	126	157	**2HJ1250**	**.80**
1500	115	173	**2HJ1500**	**.80**
1750	107	187	**2HJ1750**	**.80**
2000	100	200	**2HJ2000**	**.80**
2250	94	211	**2HJ2250**	**.80**
2500	89	222	**2HJ2500**	**.80**
2750	85	235	**2HJ2750**	**.80**
3000	81	243	**2HJ3000**	**.80**
3500	75	262	**2HJ3500**	**.80**
4000	71	284	**2HJ4000**	**.80**
4500	66	300	**2HJ4500**	**.80**
5000	63	315	**2HJ5000**	**.80**
6000	57	345	**2HJ6000**	**.80**
7500	51	387	**2HJ7500**	**.80**
10000	44	440	**2HJ10000**	**.80**
12500	40	500	**2HJ12500**	**.80**
15000	23	346	**2HJ15000**	**.80**
20000	20	400	**2HJ20000**	**.90**
25000	18	447	**2HJ25000**	**.90**
30000	18	548	**2HJ30000**	**.90**
35000	15	529	**2HJ35000**	**.90**

100 Watt Rating

Size: 1⅛ x 6½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
25	2000	50	**10HJ25**	**$1.80**
50	1414	70	**10HJ50**	**1.80**
75	1155	85	**10HJ75**	**1.80**
100	1000	100	**10HJ100**	**1.80**
150	815	120	**10HJ150**	**1.80**
250	632	158	**10HJ250**	**1.80**
500	447	220	**10HJ500**	**1.80**
750	365	275	**10HJ750**	**1.80**
1000	316	315	**10HJ1000**	**1.80**
1500	258	385	**10HJ1500**	**1.80**
2000	223	447	**10HJ2000**	**1.80**
2500	200	500	**10HJ2500**	**1.80**
5000	141	700	**10HJ5000**	**1.80**
7500	115	865	**10HJ7500**	**2.10**
10000	100	1000	**10HJ10000**	**2.10**
15000	81	1200	**10HJ15000**	**2.10**
20000	70	1400	**10HJ20000**	**2.10**
25000	63	1580	**10HJ25000**	**2.10**
30000	57	1724	**10HJ30000**	**2.40**
40000	50	2000	**10HJ40000**	**2.40**
50000	44	2200	**10HJ50000**	**2.40**
75000	23	1732	**10HJ75000**	**2.70**
100000	20	2000	**10HJ100000**	**2.70**

200 Watt Rating

Size: 1⅛ x 10½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
25	2830	70	**20HJ25**	**$3.00**
50	2000	100	**20HJ50**	**3.00**
75	1635	120	**20HJ75**	**3.00**
100	1414	140	**20HJ100**	**3.00**
250	894	220	**20HJ250**	**3.00**
500	632	315	**20HJ500**	**3.00**
750	515	385	**20HJ750**	**3.00**
1000	447	445	**20HJ1000**	**3.00**
1500	361	447	**20HJ1500**	**3.00**
2000	316	541	**20HJ2000**	**3.00**
2500	283	705	**20HJ2500**	**3.00**
3000	258	770	**20HJ3000**	**3.00**
5000	200	1000	**20HJ5000**	**3.00**
7500	163	1200	**20HJ7500**	**3.00**
10000	141	1400	**20HJ10000**	**3.00**
20000	100	2000	**20HJ20000**	**3.60**
30000	81	2400	**20HJ30000**	**3.60**
40000	70	2800	**20HJ40000**	**3.60**
50000	63	3150	**20HJ50000**	**3.60**
75000	51	3820	**20HJ75000**	**3.60**
100000	28	2828	**20HJ100000**	**3.60**

Power Resistors

P.R. MALLORY & CO. Inc.
MALLORY

VARIOHM ADJUSTABLE RESISTORS

10 Watt Rating
Size: 5/16 x 1¾ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	3150	3	1AV1	$0.75
2	2200	4.5	1AV2	.75
3	1800	5.5	1AV3	.75
5	1400	7	1AV5	.75
7.5	1150	8.5	1AV7.5	.75
10	1000	10	1AV10	.75
15	812	12	1AV15	.75
20	707	14	1AV20	.75
25	630	16	1AV25	.75
50	447	22	1AV50	.75
75	360	27	1AV75	.75
100	315	31	1AV100	.75
150	260	39	1AV150	.75
200	220	44	1AV200	.75
250	200	50	1AV250	.75
300	180	55	1AV300	.75
350	170	59	1AV350	.75
400	158	63	1AV400	.75
500	141	70	1AV500	.75
600	130	77	1AV600	.75
750	115	85	1AV750	.75
800	112	89	1AV800	.75
1000	100	100	1AV1000	.75
1250	89	111	1AV1250	.75
1500	81	122	1AV1500	.75
2000	70	141	1AV2000	.75
2250	66.5	150	1AV2250	.75
2500	63	158	1AV2500	.75
3000	56	173	1AV3000	.75
3500	53	185	1AV3500	.75
4000	50	200	1AV4000	.75
4500	47	212	1AV4500	.75
5000	45	224	1AV5000	.75
6000	40	240	1AV6000	.75
7000	38	264	1AV7000	.75
7500	36	270	1AV7500	.75
8000	35	282	1AV8000	.75
8500	34	291	1AV8500	.75
9000	33	303	1AV9000	.75
10000	32	316	1AV10000	.75

25 Watt Rating
Size: ⅝ x 2½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	5000	5	2AV1	$1.05
3	2890	8.6	2AV3	1.05
5	2240	11	2AV5	1.05
10	1580	15	2AV10	1.05
15	1290	19.3	2AV15	1.05
25	1000	25	2AV25	1.05
50	707	35	2AV50	1.05
75	575	43	2AV75	1.05
100	500	50	2AV100	1.05
150	400	60	2AV150	1.05
200	353	70	2AV200	1.05
250	316	79	2AV250	1.05
300	288	86	2AV300	1.05
400	250	100	2AV400	1.05
500	224	112	2AV500	1.05
750	182	137	2AV750	1.05
1000	158	158	2AV1000	1.05
1250	141	176	2AV1250	1.05
1500	129	194	2AV1500	1.05
2000	112	224	2AV2000	1.05
2500	100	250	2AV2500	1.05
3000	91	274	2AV3000	1.05
3500	84	296	2AV3500	1.05
4000	79	316	2AV4000	1.05
5000	71	354	2AV5000	1.05
6000	64	384	2AV6000	1.15
7500	57	431	2AV7500	1.15
10000	50	500	2AV10000	1.15
12000	44	537	2AV12000	1.15

100 Watt Rating
Size: 1⅛ x 6½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
50	1413	71	10AV50	$2.40
100	1000	100	10AV100	2.40
500	447	223	10AV500	2.40
1000	316	316	10AV1000	2.40
2000	223	447	10AV2000	2.40
2500	200	500	10AV2500	2.40
3000	182	547	10AV3000	2.40
4000	158	633	10AV4000	2.40
5000	141	707	10AV5000	2.40
7500	115	860	10AV7500	2.70
10000	100	1000	10AV10000	2.70
15000	81	1200	10AV15000	2.70
20000	70	1400	10AV20000	2.70
25000	63	1580	10AV25000	2.70
30000	57	1700	10AV30000	3.00
35000	53	1850	10AV35000	3.00
40000	50	2000	10AV40000	3.00
50000	44	2200	10AV50000	3.00
75000	23	1732	10AV75000	3.30
100000	20	2000	10AV100000	3.30

50 Watt Rating
Size: ⅝ x 4½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
5	3160	15	5AV5	$1.65
10	2230	22	5AV10	1.65
25	1410	35	5AV25	1.65
50	1000	50	5AV50	1.65
75	816	61	5AV75	1.65
100	707	70	5AV100	1.65
150	577	86	5AV150	1.65
200	500	100	5AV200	1.65
250	447	111	5AV250	1.65
300	408	122	5AV300	1.65
400	354	140	5AV400	1.65
500	316	157	5AV500	1.65
750	258	192	5AV750	1.65
1000	224	224	5AV1000	1.65
1500	182	275	5AV1500	1.65
2000	158	315	5AV2000	1.65
2500	141	350	5AV2500	1.65
3000	129	387	5AV3000	1.65
4000	112	448	5AV4000	1.65
5000	100	500	5AV5000	1.65
7500	81	610	5AV7500	1.80
10000	70	700	5AV10000	1.80
12000	64	768	5AV12000	1.80
15000	57	855	5AV15000	1.80
20000	50	1000	5AV20000	1.80
25000	44	1100	5AV25000	1.80
30000	41	1240	5AV30000	2.05
40000	35	1415	5AV40000	2.05
50000	20	1000	5AV50000	2.05

80 Watt Rating
Size: ⅝ x 6½ Tube

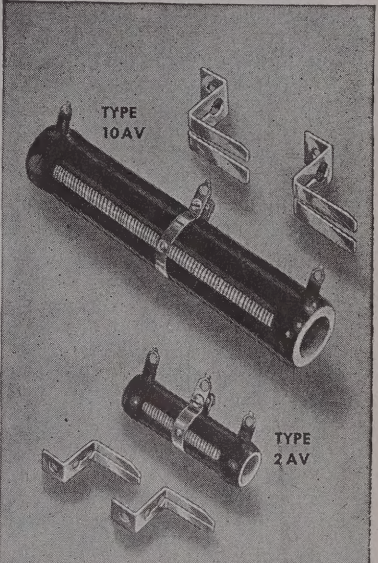
Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
10	2830	28.3	8AV10	$2.10
15	2310	34.6	8AV15	2.10
25	1790	44.8	8AV25	2.10
50	1265	63.2	8AV50	2.10
100	894	89.4	8AV100	2.10
250	566	141.5	8AV250	2.10
300	517	155	8AV300	2.10
400	495	178	8AV400	2.10
500	400	200	8AV500	2.10
750	327	245	8AV750	2.10
1000	283	283	8AV1000	2.10
1500	231	346	8AV1500	2.10
2000	200	400	8AV2000	2.10
2500	179	448	8AV2500	2.10
3500	152	530	8AV3500	2.10
5000	126	632	8AV5000	2.10
7500	103	775	8AV7500	2.40
10000	89	894	8AV10000	2.40
15000	73	1092	8AV15000	2.40
20000	63	1270	8AV20000	2.40
25000	57	1414	8AV25000	2.40
30000	51	1530	8AV30000	2.70
40000	44	1790	8AV40000	2.70
50000	25	1265	8AV50000	2.70
60000	23	1385	8AV60000	3.00

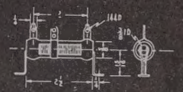
200 Watt Rating
Size: 1⅛ x 10½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
50	2000	100	20AV50	$3.60
100	1414	140	20AV100	3.60
500	632	315	20AV500	3.60
1000	447	447	20AV1000	3.60
1500	361	541	20AV1500	3.60
2000	316	632	20AV2000	3.60
2500	283	700	20AV2500	3.60
5000	200	1000	20AV5000	3.60
10000	141	1414	20AV10000	3.60
20000	100	2000	20AV20000	4.20
25000	89	2225	20AV25000	4.20
30000	81	2437	20AV30000	4.20
50000	63	3150	20AV50000	4.20
75000	51	3825	20AV75000	4.20
100000	28	2828	20AV100000	4.20

Extra Adjustable Clips

	List Price
Type No. 3V— For 25, 50, and 80-Watt Variohms....	$0.10 each
Type No. 6V— For 100 and 200-Watt 1⅛" Variohms	.15 each

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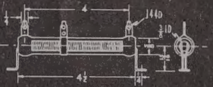
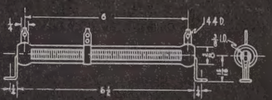


TYPE 5AV



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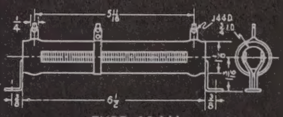

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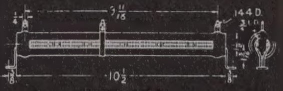
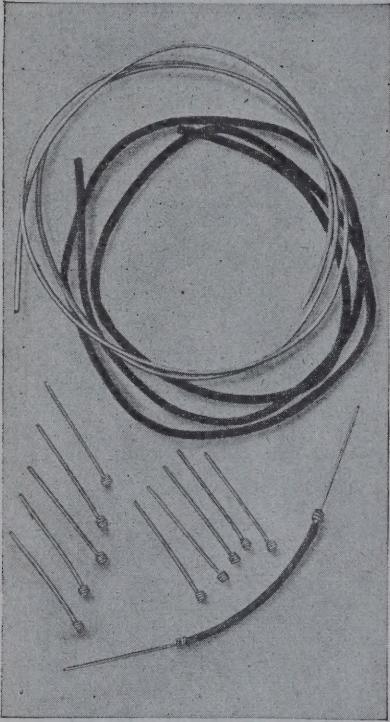


TYPE 20AV

P.R. MALLORY & CO. Inc.
MALLORY

Resistors Grid Bias Cells



YARD-OHM RESISTANCE KITS

- Each Yard-Ohm Resistance Kit consists of an envelope containing all necessary materials to construct flexible resistors of a wide range of values. The Yard-Ohm Kit provides a real solution to the odd-value resistor problem. In addition to replacement applications, resistors made from the Yard-Ohm Kit are ideal for meter shunts, and for use wherever a high quality flexible resistor is desired.

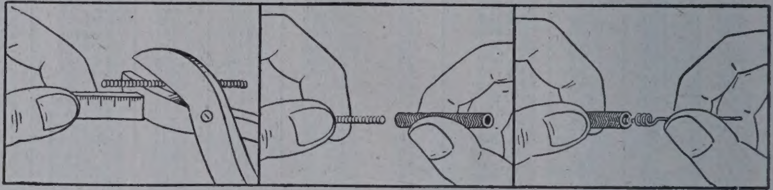
Each Mallory Yard-Ohm Kit consists of an envelope containing the following:

1 yard spiral wound resistance wire
1 yard insulated braid
24 spiral wire leads

The kit is available in eight resistance values

Cat. No.	Resistance Value (Ohms per Inch)	Carrying Capacity in Amperes	List Price
YO-1	1	.707	**$0.75**
YO-5	5	.315	**.75**
YO-10	10	.223	**.75**
YO-25	25	.141	**.75**
YO-50	50	.100	**.75**
YO-100	100	.071	**.75**
YO-250	250	.044	**.75**
YO-500	500	.031	**.75**

Dissipation—all types: ½ watt per inch.



FIRST—Determine length by dividing "ohms per inch" into the resistance value desired. Add ¼ inch to this for terminals and cut.

SECOND — Cover element with the required length of insulating braid.

THIRD — Insert wire leads over ends of resistance elements and clinch tightly with pliers.

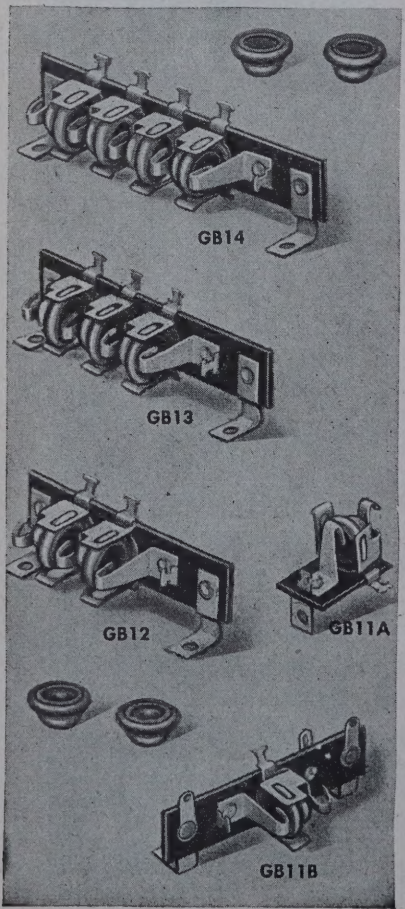
GRID BIAS CELL—An Exclusive Mallory Development

(U. S. Letters Patent 1,920,151; 2,063,524; 2,116,091; Des. 106,163; et al.)

- The Mallory Grid Bias Cell is a small acorn-shaped, self-contained device. The metal container or cup is the negative electrode. The black disc is the positive electrode. Various styles of holders are shown at left.

Mallory Bias Cells are available in two types—the original 1-volt cells and the new 1¼-volt cells. For new installations, the choice of Bias Cell types will depend on the voltage desired. Replacements should be made with the type of Bias Cell used as original equipment.

The 1¼-volt Bias Cells may be distinguished from the 1-volt unit by the concave depressions in both the upper electrode and bottom of the shell case.



Application

The principal use of Mallory Grid Bias Cells are in the biasing of the first audio amplifier tube in modern high-gain receivers. The bias cell does not need to be bypassed to ground.

Correspondence is invited regarding the application of Mallory Grid Bias Cells. Special Technical Bulletin No. B-303 may be obtained on request.

Characteristics

The no-current potential of Mallory Grid Bias Cells is within plus or minus 10% of their rated voltage.

Current—The cell is strictly a potential or voltage cell for biasing class "A" amplifier tubes and should not be used for biasing power tubes or oscillators; or for any circuit where an appreciable direct current may flow through the cell.

Temperature—The cells may be used in ambient temperatures from 40° below zero to 120° F. The voltage of the cell remains reasonably constant throughout this wide temperature range. It is recommended, however, that wherever possible the bias cell be placed in the coolest location.

Humidity—The cell exhibits no change in characteristics when exposed to a relative humidity of 90% at 120° F.

Impedance—Mallory Grid Bias Cells are non-reactive at audio frequencies. For the 1-volt cell, the DC resistance ranges between 11,000 and 50,000 ohms. The DC resistance of the 1¼-volt cell ranges between 10,000 and 40,000 ohms.

Noise—The cells do not cause the development of any noise.

PRICE LIST

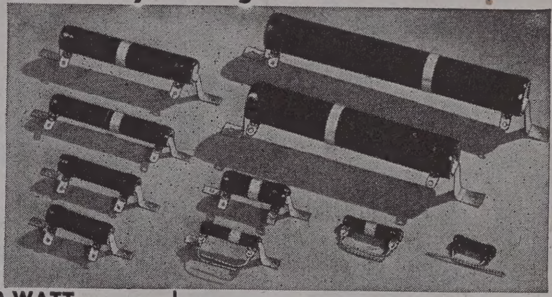
Mallory Grid Bias Cells, 1-volt type (Packed 10 to the box)	**$0.35**	**per cell**
Mallory Grid Bias Cells, 1¼-volt type (Packed 10 to the box)	**.35**	**per cell**
Mallory Grid Bias Cell Holder, Cat. No. GB11A, 1-cell capacity	**.15**	**each**
Mallory Grid Bias Cell Holder, Cat. No. GB11B, 1-cell capacity	**.20**	**each**
Mallory Grid Bias Cell Holder, Cat. No. GB12, 2-cell capacity	**.25**	**each**
Mallory Grid Bias Cell Holder, Cat. No. GB13, 3-cell capacity	**.30**	**each**
Mallory Grid Bias Cell Holder, Cat. No. GB14, 4-cell capacity	**.40**	**each**

LECTROHM *Vitreous Enameled* RESISTORS

Quality—Accuracy—Dependability—Long Life

WIRE WOUND—FIXED TYPES

LECTROHM Resistors are manufactured from the highest quality materials obtainable and are rated according to R.M.A. standards. LECTROHM Resistors are rugged—dependable — accurate — quality components that will give long trouble-free service. (Mounting brackets available for 20, 50, 80, 100, 160 and 200 watt units.)



TYPE 1¼L—5-WATT

DIMENSIONS................¼" x $\frac{5}{32}$" x 1¼"
TERMINALS............................Pig Tail
MAXIMUM RESISTANCE..........10,000 ohms
No Mounting Brackets

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	2240	$0.35	300	129	$0.35
2	1580	.35	350	119	.35
3	1290	.35	400	111	.35
4	1110	.35	500	100	.35
5	1000	.35	600	91	.35
10	707	.35	700	84	.35
15	575	.35	750	81	.35
20	500	.35	800	79	.35
25	447	.35	900	74	.35
30	408	.35	1000	70	.35
35	374	.35	1100	64	.35
40	346	.35	1200	60	.35
50	316	.35	1250	59	.35
75	258	.35	1500	54	.35
100	222	.35	1750	50	.35
125	200	.35	2000	44	.35
150	182	.35	2500	40	.35
200	158	.35	3000	36	.35
225	149	.35	4000	31	.35
250	141	.35	5000	28	.35

TYPE 1¾—10-WATT

DIMENSIONS ....$\frac{5}{16}$" x $\frac{3}{16}$" x 1¾"
TERMINALS............................Pig Tail
MAXIMUM RESISTANCE.........40,000 ohms
No Mounting Brackets

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	$0.40	1500	79	$0.40
2	2230	.40	1750	74	.40
3	1825	.40	2000	69	.40
5	1415	.40	2250	64	.40
7.5	1155	.40	2500	61	.40
10	1000	.40	3000	56	.40
15	815	.40	3500	51	.40
20	707	.40	4000	47	.40
25	630	.40	4500	44	.40
50	447	.40	5000	40	.40
75	365	.40	6000	36	.40
100	315	.40	7000	33	.40
150	258	.40	7500	32	.40
200	223	.40	8000	31	.40
250	200	.40	8500	30	.40
300	182	.40	10000	24	.40
350	169	.40	12000	20	.40
400	158	.40	12500	20	.40
500	141	.40	15000	18	.40
600	129	.40	17500	17	.40
700	119	.40	18000	16	.40
750	115	.40	20000	15	.40
800	111	.40	22500	15	.40
900	105	.40	25000	14	.40
1000	100	.40	30000	8	.40
1200	91	.40	40000	7	.40
1250	89	.40			

LECTROHM
R. F. PLATE CHOKES

(1000 Milliamps.)

Type	RFC-1	RFC-2	RFC-3	RFC-4
Amateur Band Meters	5	10 & 20	20 & 40	20, 40 80 & 160
Microhenries	5.4	35	95	220
D. C. Ohms	0.85	2	5	9
Lgth. Overall	1¾"	3"	6"	6½"
Diameter	¼"	$\frac{9}{16}$"	$\frac{9}{16}$"	¾"
List Price	**$0.25**	**$0.80**	**$1.20**	**$1.65**

TYPE 2R—20-WATT

DIMENSIONS..................½" x $\frac{5}{16}$" x 2"
TERMINALS ....Solder Lug
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 2⅞"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	2000	$0.70	1100	134	.70
10	1414	.70	1250	126	.70
15	1153	.70	1500	115	.70
20	1000	.70	2000	100	.70
25	894	.70	2500	89	.70
40	707	.70	3000	81	.70
50	633	.70	4000	70	.70
60	574	.70	5000	63	.70
75	517	.70	6000	57	.80
100	448	.70	7000	53	.80
125	400	.70	7500	51	.80
150	365	.70	8000	50	$0.80
200	316	.70	10000	43	.80
250	283	.70	12500	39	.85
300	258	.70	15000	30	.85
350	238	.70	20000	24	1.00
400	223	.70	25000	21	1.00
500	200	$0.70	30000	21	$1.20
600	182	.70	35000	18	1.20
700	169	.70	40000	17	1.20
750	163	.70	45000	13	1.20
800	158	.70	50000	11	1.20
1000	141	.70			

TYPE 4½M—50-WATT

DIMENSIONS................¾" x ½" x 4½"
TERMINALS.........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 5½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3165	$1.10	6000	85	$1.25
10	2230	1.10	7000	78	1.25
25	1390	1.10	7500	77	1.25
50	1000	1.10	8000	75	1.25
100	700	1.10	10000	66	1.25
200	500	1.10	12000	63	1.25
250	440	1.10	12500	60	1.25
500	300	1.10	15000	56	1.25
750	250	1.10	20000	48	1.25
1000	215	1.10	25000	43	1.25
1500	175	1.10	30000	39	1.45
2000	155	1.10	40000	34	1.45
2500	135	1.10	50000	30	1.45
3000	120	1.10	60000	28	1.80
4000	105	1.10	75000	25	1.80
5000	95	1.10	100000	21	2.15

TYPE 6½M—80-WATT

DIMENSIONS................¾" x ½" x 6½"
TERMINALS.........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	4000	$1.50	5000	122	$1.50
10	2730	1.50	6000	112	1.75
25	1730	1.50	7500	100	1.75
50	1220	1.50	8000	98	1.75
100	865	1.50	10000	86	1.75
200	612	1.50	15000	70	1.75
250	545	1.50	20000	61	1.75
500	387	1.50	25000	55	1.75
750	316	1.50	30000	50	2.00
1000	274	1.50	50000	43	2.00
1500	223	1.50	50000	39	2.00
2000	193	1.50	60000	35	2.25
2500	173	1.50	75000	31	2.25
3000	158	1.50	100000	27	2.25
4000	137	1.50			

TYPE 6½K—100-WATT

DIMENSIONS...............1⅛" x ¾" x 6½"
TERMINALS.........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
25	2000	$1.60	3000	180	$1.60
50	1414	1.60	5000	140	1.60
75	1155	1.60	7500	115	1.80
100	1000	1.60	10000	100	1.80
150	815	1.60	15000	80	1.80
250	632	1.60	20000	70	1.80
500	447	1.60	25000	63	1.80
750	365	1.60	30000	58	2.10
1000	315	1.60	40000	50	2.10
1250	280	1.60	50000	44	2.10
1500	250	1.60	60000	41	2.30
2000	220	1.60	75000	36	2.30
2500	200	1.60	100,000	31	2.50

TYPE 8½K—160-WATT

DIMENSIONS...............1⅛" x ¾" x 8½"
TERMINALS.........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET...........Centers 9½"

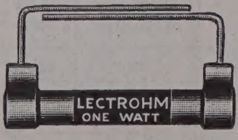
Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	$2.00	4500	185	$2.00
10	4000	2.00	5000	180	2.00
25	2530	2.00	7500	145	2.00
50	1788	2.00	10000	125	2.00
75	1460	2.00	15000	105	2.40
100	1260	2.00	20000	90	2.40
200	900	2.00	25000	80	2.40
500	570	2.00	30000	67	2.40
1000	400	2.00	35000	57	2.40
1500	330	2.00	40000	50	2.40
2000	280	2.00	50000	40	2.40
2500	250	2.00	60000	33	2.70
3000	230	2.00	70000	28	2.70
3500	215	2.00	80000	25	2.70
4000	200	2.00	100000	20	2.70

TYPE 10½K—200-WATT

DIMENSIONS..............1⅛" x ¾" x 10½"
TERMINALS.........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET...........Centers 11½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	6310	$2.50	4500	210	$2.50
10	4470	2.50	5000	200	2.50
25	2830	2.50	7500	165	2.50
50	2000	2.50	10000	140	2.50
75	1635	2.50	15000	115	3.00
100	1400	2.50	20000	100	3.00
250	900	2.50	25000	90	3.00
500	630	2.50	30000	82	3.00
1000	450	2.50	35000	71	3.00
1500	365	2.50	40000	62	3.00
2000	315	2.50	50000	50	3.00
2500	280	2.50	60000	42	3.00
3000	260	2.50	75000	33	3.00
3500	240	2.50	100000	25	3.00
4000	225	2.50			

LECTROHM INSULATED WIRE-WOUND RESISTORS—1 WATT

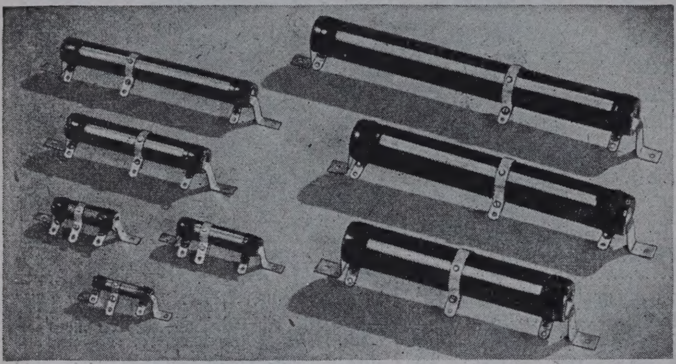


Ohms	Max. Current Mills.	Ohms	Max. Current Mills.	Ohms	Max. Current Mills.	Ohms	Max. Current Mills.
100	100	750	36	2,500	20	9,000	10
125	89	800	35	3,000	18	10,000	10
150	81	900	33	3,500	16	12,500	9
200	70	1,000	31	4,000	15	15,000	8
250	63	1,100	30	4,500	14	16,000	7
300	57	1,200	28	5,000	14	17,500	7
350	53	1,250	28	6,000	12	18,000	7
400	50	1,500	25	7,000	11	20,000	7
500	44	1,750	23	7,500	11	22,500	6
600	40	2,000	22	8,000	11	25,000	6
700	37	2,250	21				

List Price, Each $0.30

LECTROHM *Vitreous Enameled* RESISTORS

Quality—Accuracy—Dependability—Long Life



WIRE WOUND ADJUSTABLE TYPES

The same high quality and construction are used for LECTROHM Adjustable Resistors as are incorporated in LECTROHM fixed units.

These resistors are used for replacing voltage dividers in radio receivers, for radio transmitter power supply, and for general experimental work.

TYPE 1¾EV—10-WATT

DIMENSIONS .... $\frac{5}{16}$" x $\frac{3}{16}$" x 1¾"
TERMINALS ....Lug Type
MAXIMUM RESISTANCE........10,000 ohms
MOUNTING BRACKET ....Centers 2¼"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	$0.60	750	115	$0.60
2	2230	.60	800	111	.60
3	1825	.60	1000	100	.60
5	1415	.60	1250	89	.60
7.5	1155	.60	1500	79	.60
10	1000	.60	2000	69	.60
15	815	.60	2250	64	.60
20	707	.60	2500	61	.60
25	630	.60	3000	56	.60
50	447	.60	3500	51	.60
75	365	.60	4000	47	.60
100	315	.60	4500	44	.60
150	258	.60	5000	40	.60
200	223	.60	6000	36	.60
250	200	.60	7000	33	.60
300	182	.60	7500	32	.60
350	169	.60	8000	31	.60
400	158	.60	8500	30	.60
500	141	.60	10000	24	.60
600	129	.60			

TYPE 2SV—25-WATT

DIMENSIONS ....$\frac{9}{16}$" x $\frac{5}{16}$" x 2"
TERMINALS ....Solder Lug
MAXIMUM RESISTANCE..........25,000 ohms
MOUNTING BRACKET...........Centers 2⅞"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	5000	$0.85	1000	158	$0.85
3	2890	.85	1250	141	.85
5	2240	.85	1500	129	.85
10	1580	.85	2000	112	.85
15	1290	.85	2500	100	.85
25	1000	.85	3000	91	.85
50	707	.85	3500	84	.85
75	575	.85	4000	79	.85
100	500	.85	5000	71	.85
150	400	.85	6000	64	.95
200	353	.85	7500	57	.95
250	316	.85	10000	50	.95
300	288	.85	12000	44	.95
400	250	.85	15000	26	.95
500	224	.85	20000	22	1.10
750	182	.85	25000	20	1.10

TYPE 4½MV—50-WATT

DIMENSIONS.....................¾" x ½" x 4½"
TERMINALS............................. Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 5½"

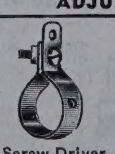
Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3160	$1.35	3000	129	$1.35
10	2230	1.35	4000	112	1.35
25	1410	1.35	5000	100	1.35
50	1000	1.35	7500	81	1.50
75	816	1.35	10000	70	1.50
100	707	1.35	12000	64	1.50
150	577	1.35	15000	57	1.50
200	500	1.35	20000	50	1.50
250	447	1.35	25000	44	1.50
300	408	1.35	30000	41	1.70
400	354	1.35	40000	35	1.70
500	316	1.35	50000	20	1.70
750	258	1.35	60000	18	2.40
1000	224	1.35	75000	17	2.40
1500	182	1.35	80000	16	2.40
2000	158	1.35	100000	14	2.40
2500	141	1.35			

TYPE 6½MV—80-WATT

DIMENSIONS.....................¾" x ½" x 6½"
TERMINALS............................. Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
10	2830	$1.75	3500	152	$1.75
15	2310	1.75	5000	126	1.75
25	1790	1.75	7500	103	2.00
50	1265	1.75	10000	89	2.00
100	894	1.75	15000	73	2.00
250	566	1.75	20000	63	2.00
300	517	1.75	25000	57	2.00
400	495	1.75	30000	51	2.25
500	400	1.75	40000	44	2.25
750	327	1.75	50000	25	2.25
1000	283	1.75	60000	23	2.50
1500	231	1.75	75000	21	2.50
2000	200	1.75	80000	20	2.50
2500	179	1.75	100000	18	2.50

ADJUSTABLE LUGS



Screw-Driver Type

Diameter of Resistor	List Price
⅜"	$0.10
⅝"	.10
⅞"	.15
1¼"	.15

TYPE 6½KV—100-WATT

DIMENSIONS................1⅛" x ¾" x 6½"
TERMINALS..................................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	1413	$2.00	15000	81	$2.25
100	1000	2.00	20000	70	2.25
500	447	2.00	25000	63	2.25
1000	316	2.00	30000	57	2.50
2000	223	2.00	35000	53	2.50
3000	182	2.00	40000	50	2.50
4000	158	2.00	50000	44	2.50
5000	141	2.00	75000	23	2.75
7500	115	2.25	100000	20	2.75
10000	100	2.25			

TYPE 8½KV—160-WATT

DIMENSIONS................1⅛" x ¾" x 8½"
TERMINALS................................ Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 9½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	$2.50	10000	126	$2.50
10	4000	2.50	15000	103	2.90
25	2530	2.50	20000	89	2.90
50	1788	2.50	25000	80	2.90
100	1266	2.50	30000	73	2.90
500	566	2.50	40000	55	2.90
1000	400	2.50	50000	43	2.90
2500	253	2.50	75000	27	3.25
5000	179	2.50	100000	18	3.25

TYPE 10½KV—200-WATT

DIMENSIONS................1⅛" x ¾" x 10½"
TERMINALS.................................Solder Lugs
MAXIMUM RESISTANCE ......100,000 ohms
MOUNTING BRACKET..........Centers 11½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	2000	$3.00	10000	141	$3.00
100	1414	3.00	20000	100	3.50
500	632	3.00	25000	89	3.50
1000	447	3.00	30000	81	3.50
1500	361	3.00	50000	63	3.50
2000	316	3.00	75000	51	3.50
2500	283	3.00	100000	28	3.50
5000	200	3.00			

Mounting brackets and one band are furnished with all adjustable types.

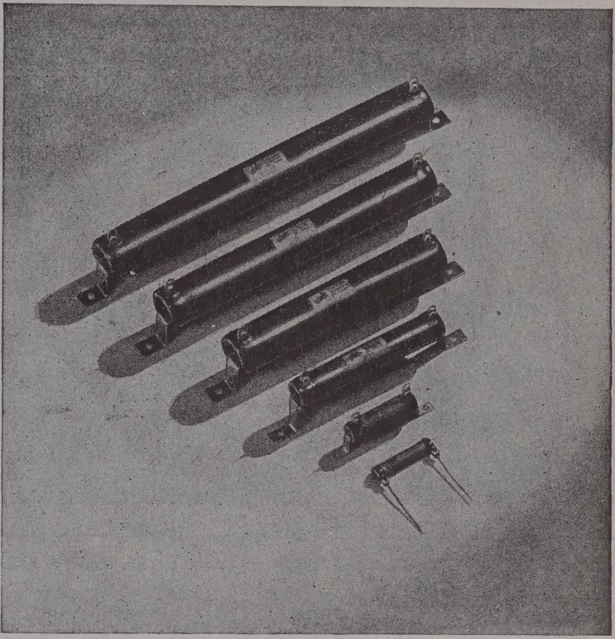
utah

VITREOUS ENAMELED RESISTORS

UTAH Vitreous Enameled Resistors are perfectly protected against corrosion from salt spray, moisture, acids and alkalis, as their coating is genuine Vitreous Enamel, applied by a wet process, then fired in a furnace at a high temperature which fuses it into a hard glassy enamel which adheres permanently to the rugged porcelain tube core, resistance wire and terminals. To be doubly protected, all Utah Vitreous Enameled Resistors receive two generous coats, each of which is separately fired.

Utah terminals cannot tear loose, being securely eyeleted around the tube. Resistance wire joined to terminal on opposite side of tube from lug, so severe bending of soldering lugs cannot break the wire.

See reverse side for Adjustable Types.



10 WATT SIZES Type CC

RATING: 10 Watts up to 2000 ohms in free air. Higher resistance units rated as listed in table. 1¾" long, ⅜" overall diameter. Has 1½" long No. 18 Ga. tinned wire pigtail leads.

Ohms	Max. Current in Mils	Max. Voltage	List Price	**Net Price**	Ohms	Max. Current in Mils	Max. Voltage	List Price	**Net Price**
1	3,150	3	$0.40	**$0.24**	2,500	61	154	$0.40	**$0.24**
2	2,230	4.4	.40	**.24**	3,000	56	169	.40	**.24**
3	1,825	5.4	.40	**.24**	3,500	51	179	.40	**.24**
4	1,580	6.3	.40	**.24**	4,000	47	190	.40	**.24**
5	1,415	7	.40	**.24**	4,500	44	197	.40	**.24**
10	1,000	10	.40	**.24**	5,000	40	200	.40	**.24**
15	815	12	.40	**.24**	6,000	36	219	.40	**.24**
25	630	15	.40	**.24**	7,000	33	230	.40	**.24**
5	535	18	.40	**.24**	7,500	32	245	.40	**.24**
50	447	22	.40	**.24**	8,000	31	248	.40	**.24**
75	365	27	.40	**.24**	8,500	30	245	.40	**.24**
100	315	31	.40	**.24**	10,000	24	245	.40	**.24**
150	258	38	.40	**.24**	11,000	22	242	.40	**.24**
200	223	44	.40	**.24**	12,000	20	245	.40	**.24**
250	200	50	.40	**.24**	12,500	20	250	.40	**.24**
300	182	54	.40	**.24**	13,500	19	256	.40	**.24**
350	169	59	.40	**.24**	14,300	18	258	.40	**.24**
400	158	63	.40	**.24**	15,000	18	274	.40	**.24**
450	149	67	.40	**.24**	16,000	17	272	.40	**.24**
500	141	70	.40	**.24**	17,500	17	298	.40	**.24**
600	129	77	.40	**.24**	18,000	16	288	.40	**.24**
750	115	86	.40	**.24**	20,000	15	316	.40	**.24**
800	111	88	.40	**.24**	22,500	15	338	.40	**.24**
900	105	94	.40	**.24**	25,000	14	354	.40	**.24**
1,000	100	100	.40	**.24**	30,000	8	240	.40	**.24**
1,250	89	111	.40	**.24**	35,000	7	245	.40	**.24**
1,500	79	119	.40	**.24**	40,000	7	280	.40	**.24**
1,750	74	130	.40	**.24**	50,000	6	300	.40	**.24**
2,000	69	138	.40	**.24**					

20 WATT SIZES—Type EE

RATING: 20 Watts up to 10,000 ohms in free air. Higher resistance units rated as listed in table. 2" long, 9/16" overall diameter, 5/16" inside diameter. Supplied with mounting brackets, 2¾" mounting centers. Has soldering lug terminals.

5	2,000	10	$0.65	**$0.39**	2,500	89	223	$0.65	**$0.39**
10	1,415	14	.65	**.39**	2,750	85	234	.65	**.39**
25	895	22	.65	**.39**	3,000	81	245	.65	**.39**
50	633	31	.65	**.39**	3,500	75	264	.65	**.39**
75	517	38	.65	**.39**	4,000	70	283	.65	**.39**
100	448	44	.65	**.39**	4,500	66	300	.65	**.39**
150	365	54	.65	**.39**	5,000	63	316	.65	**.39**
200	316	63	.65	**.39**	6,000	57	346	.65	**.39**
250	283	70	.65	**.39**	7,000	53	374	.65	**.39**
300	258	77	.65	**.39**	7,500	51	387	.65	**.39**
350	239	83	.65	**.39**	8,000	50	400	.65	**.39**
400	223	89	.65	**.39**	10,000	43	436	.65	**.39**
500	200	100	.65	**.39**	12,500	39	488	.65	**.39**
650	175	114	.65	**.39**	15,000	34	520	.65	**.39**
700	169	118	.65	**.39**	20,000	27	565	.75	**.45**
750	163	122	.65	**.39**	25,000	25	630	.75	**.45**
800	158	126	.65	**.39**	30,000	21	635	.75	**.45**
850	153	130	.65	**.39**	35,000	18	648	.75	**.45**
1,000	141	141	.65	**.39**	40,000	17	694	.75	**.45**
1,200	129	155	.65	**.39**	50,000	11	550	.75	**.45**
1,500	115	173	.65	**.39**	60,000	8	490	1.00	**.60**
1,750	107	187	.65	**.39**	75,000	7	547	1.00	**.60**
2,000	100	200	.65	**.39**	85,000	6.5	583	1.00	**.60**
2,250	94	212	.65	**.39**	100,000	6	633	1.00	**.60**

50 WATT SIZES—Type KK

RATING: 50 Watts up to 20,000 ohms in free air. Higher resistance units rated as listed in table. 4½" long, 13/16" overall diameter, ½" inside diameter. Supplied with mounting brackets, 5⅜" mounting centers. Has soldering lug terminals.

5	3,160	15	$1.10	**$0.66**	5,000	100	500	$1.10	**$0.66**
10	2,240	22	1.10	**.66**	7,500	81	600	1.25	**.75**
25	1,420	35	1.10	**.66**	8,000	79	632	1.25	**.75**
50	1,000	50	1.10	**.66**	10,000	70	700	1.25	**.75**
175	815	61	1.10	**.66**	12,000	64	768	1.25	**.75**
100	707	70	1.10	**.66**	15,000	57	850	1.25	**.75**
250	577	86	1.10	**.66**	20,000	48	960	1.25	**.75**
200	500	100	1.10	**.66**	25,000	43	1,070	1.25	**.75**
550	447	110	1.10	**.66**	35,000	33	1,150	1.45	**.87**
700	316	158	1.10	**.66**	50,000	25	1,250	1.45	**.87**
850	258	193	1.10	**.66**	75,000	16	1,200	1.45	**.87**
000	250	200	1.10	**.66**	100,000	12	1,200	1.45	**.87**
1,500	224	224	1.10	**.66**	125,000	11	1,375	2.00	**1.20**
1,000	183	274	1.10	**.65**	150,000	9	1,350	2.25	**1.35**
2,000	158	316	1.10	**.66**	175,000	7	1,225	2.25	**1.35**
2,500	142	354	1.10	**.66**	200,000	7	1,400	2.50	**1.50**
3,000	129	387	1.10	**.66**	250,000	6	1,500	2.75	**1.65**
4,000	112	448	1.10	**.66**					

100 WATT SIZES—Type NN

RATING: 100 Watts up to 20,000 ohms in free air. Higher resistance units rated as listed in table. 6½" long, 1¼" overall diameter, ¾" inside diameter. Supplied with mounting brackets, 7⅜" mounting centers. Has soldering lug terminals.

Ohms	Max. Current in Mils	Max. Voltage	List Price	**Net Price**	Ohms	Max. Current in Mils	Max. Voltage	List Price	**Net Price**
5	4,470	23	$1.50	**$0.90**	2,500	200	500	1.50	**.90**
10	3,160	31	1.50	**.90**	3,000	182	545	1.50	**.90**
25	2,000	50	1.50	**.90**	5,000	141	700	1.50	**.90**
50	1,414	70	1.50	**.90**	7,500	115	860	1.75	**1.05**
75	1,155	85	1.50	**.90**	10,000	100	1,000	1.75	**1.05**
100	1,000	100	1.50	**.90**	15,000	81	1,200	1.75	**1.05**
150	815	120	1.50	**.90**	20,000	70	1,400	1.75	**1.05**
250	632	155	1.50	**.90**	25,000	56	1,400	1.75	**1.05**
500	447	220	1.50	**.90**	30,000	51	1,500	2.00	**1.20**
750	365	275	1.50	**.90**	40,000	38	1,520	2.00	**1.20**
1,000	316	315	1.50	**.90**	50,000	28	1,400	2.00	**1.20**
1,500	258	385	1.50	**.90**	75,000	16	1,200	2.25	**1.35**
2,000	223	445	1.50	**.90**	100,000	14	1,400	2.50	**1.50**

160 WATT SIZES—Type PP

RATING: 160 Watts up to 25,000 ohms in free air. Higher resistance units rated as listed in table. 8½" long, 1¼" overall diameter, ¾" inside diameter. Supplied with mounting brackets, 9⅜" mounting centers. Has solderinng lug terminals.

5	5,660	33	$2.00	**$1.20**	2,500	253	632	$2.00	**$1.20**
10	4,000	40	2.00	**1.20**	3,000	231	692	2.00	**1.20**
25	2,530	63	2.00	**1.20**	5,000	179	895	2.00	**1.20**
50	1,788	89	2.00	**1.20**	7,500	146	1,090	2.00	**1.20**
75	1,460	108	2.00	**1.20**	10,000	126	1,260	2.00	**1.20**
100	1,266	126	2.00	**1.20**	15,000	103	1,545	2.40	**1.44**
150	1,035	150	2.00	**1.20**	20,000	89	1,780	2.40	**1.44**
250	800	200	2.00	**1.20**	25,000	80	2,000	2.40	**1.44**
500	566	282	2.00	**1.20**	30,000	73	2,190	2.40	**1.44**
780	462	346	2.00	**1.20**	40,000	55	2,200	2.40	**1.44**
1,000	400	400	2.00	**1.20**	50,000	43	2,150	2.40	**1.44**
1,500	328	490	2.00	**1.20**	75,000	27	2,020	2.70	**1.62**
2,000	283	566	2.00	**1.20**	100,000	18	1,800	2.70	**1.62**

200 WATT SIZES—Type UU

RATING: 200 Watts up to 30,000 ohms in free air. Higher resistance units rated as listed in table. 10½" long, 1¼" overall diameter, ¾" inside diameter. Supplied with mounting brackets, 11⅜" mounting centers. Has soldering lug terminals.

5	6,310	31	$2.50	**$1.50**	2,500	283	605	$2.50	**$1.50**
10	4,470	44	2.50	**1.50**	3,000	258	770	2.50	**1.50**
25	2,830	70	2.50	**1.50**	5,000	200	1 000	2.50	**1.50**
50	2,000	100	2.50	**1.50**	7,500	163	1,200	2.50	**1.50**
75	1,635	120	2.50	**1.50**	10,000	141	1,400	2.50	**1.50**
100	1,414	140	2.50	**1.50**	15,000	115	1,725	3.00	**1.80**
150	1,150	170	2.50	**1.50**	20,000	100	2,000	3.00	**1.80**
250	894	220	2.50	**1.50**	25,000	89	2,200	3.00	**1.80**
500	632	315	2.50	**1.50**	30,000	81	2,400	3.00	**1.80**
750	515	385	2.50	**1.50**	40,000	63	2,500	3.00	**1.80**
1,000	447	447	2.50	**1.50**	50,000	49	2.450	3.00	**1.80**
1,500	364	545	2.50	**1.50**	75,000	30	2,200	3.00	**1.80**
2,000	316	630	2.50	**1.50**	100,000	20	2,000	3.00	**1.80**

Some of the above Items may not be available for the duration. Consult your local UTAH jobber.

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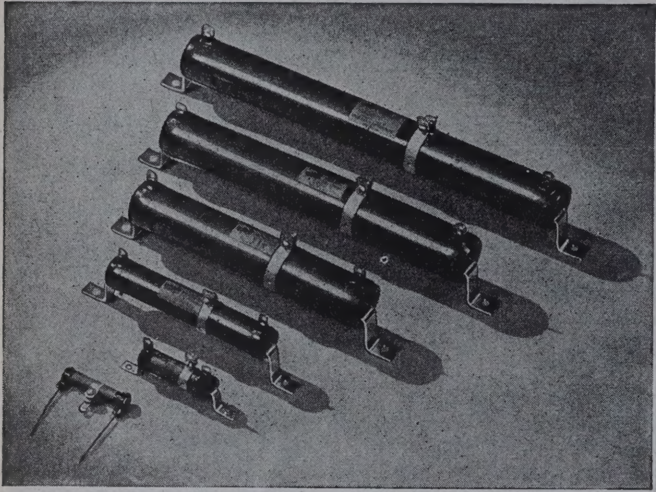
ADJUSTABLE VITREOUS ENAMEL RESISTORS



UTAH Adjustable Types have all the dependable features of the fixed units described on the reverse side; and in addition, the turns of the resistance wire are exposed in a narrow strip to make contact with the adjustable terminal band. Even in this partly exposed area, the wires are protected and anchored from shifting by an enamel which lies between the turns. The cadmium-plated steel adjustable terminal can be set at any desired value along the resistor, and clamped in place with a screw and nut. The wattage which may be safely dissipated at fractional settings is proportional to the effective length of the section being used. Thus an adjustable resistor rated at 50 watts overall, may safely take 25 watts over half of the winding.

10 WATT SIZES—Type CCX

RATING: 10 Watts up to 2000 ohms in free air, entire element. Higher resistance units rated as listed in table. 1¾″ long, ⅜″ overall diameter. Equipped with tinned lug type terminals at each end and one adjustable terminal.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
10	1,000	10	$0.60	$0.36
25	630	15	.60	.36
50	447	22	.60	.36
100	315	31	.60	.36
250	200	50	.60	.36
500	141	70	.60	.36
750	115	86	.60	.36
1,000	100	100	.60	.36
1,500	79	119	.60	.36
2,500	61	154	.60	.36
4,000	47	190	.60	.36
5,000	40	200	.60	.36
7,500	32	245	.60	.36
10,000	24	245	.60	.36

20 WATT SIZES—Type EEX

RATING: 20 Watts up to 10,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 2″ long 9/16″ overall diameter, 5/16″ inside diameter. Supplied with mounting brackets, 2¾″ mounting centers and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
10	1,415	14	$0.85	$0.51
25	895	22	.85	.51
50	633	31	.85	.51
100	448	44	.85	.51
250	283	70	.85	.51
500	200	100	.85	.51
750	163	122	.85	.51
1,000	141	141	.85	.51
1,500	115	173	.85	.51
2,500	89	223	.85	.51
4,000	70	283	.85	.51
5,000	63	316	.85	.51
7,500	51	387	.95	.57
10,000	43	436	.95	.57
15,000	34	520	.95	.57
25,000	25	630	1.10	.66

50 WATT SIZES—Type KKX

RATING: 50 Watts up to 20,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 4½″ long, 3/16″ overall diameter, ½″ inside diameter. Supplied with mounting brackets, 5⅜″ mounting centers, and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
10	2,240	22	$1.35	$0.81
25	1,420	35	1.35	.81
50	1,000	50	1.35	.81
100	707	70	1.35	.81
250	447	110	1.35	.81
500	316	158	1.35	.81
750	258	193	1.35	.81
1,000	224	224	1.35	.81
1,500	183	274	1.35	.81
2,500	142	354	1.35	.81
4,000	112	448	1.35	.81
5,000	100	500	1.35	.81
7,500	81	600	1.50	.90
10,000	70	700	1.50	.90
15,000	57	850	1.50	.90
25,000	43	1,070	1.50	.90
40,000	35	1,400	1.70	1.02
50,000	25	1,250	1.70	1.02
75,000	15	1,200	2.00	1.20
100,000	12	1,200	2.00	1.20

100 WATT SIZES—Type NNX

RATING: 100 Watts up to 20,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 6½″ long, 1¼″ overall diameter, ¾″ inside diameter. Supplied with mounting brackets, 7⅜″ mounting centers, and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
25	2,000	50	$2.00	$1.20
50	1,414	70	2.00	1.20
100	1,000	100	2.00	1.20
500	447	220	2.00	1.20
1,000	316	315	2.00	1.20
2,500	200	500	2.00	1.20
5,000	141	700	2.00	1.35
10,000	100	1,000	2.25	1.35
15,000	81	1,200	2.25	1.35
20,000	70	1,400	2.25	1.35
25,000	56	1,400	2.25	1.35
40,000	38	1,520	2.50	1.50
50,000	28	1,400	2.50	1.50
75,000	16	1,200	2.75	1.65
100,000	14	1,400	2.75	1.65

160 WATT SIZES—Type PPX

RATING: 160 Watts up to 25,000 ohms in free air, entire element. Higher resistance units rated at listed in table. 8½″ long, 1¼″ overall diameter, ¾″ inside diameter. Supplied with mounting brackets, 9⅜″ mounting centers, and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
25	2,530	63	$2.50	$1.50
50	1,788	89	2.50	1.50
100	1,266	126	2.50	1.50
500	566	282	2.50	1.50
1,000	400	400	2.50	1.50
2,500	253	632	2.50	1.50
5,000	179	895	2.50	1.50
10,000	126	1,260	2.50	1.50
15,000	103	1,545	2.90	1.74
20,000	89	1,780	2.90	1.74
25,000	80	2,000	2.90	1.74
40,000	55	2,200	2.90	1.74
50,000	43	2,150	2.90	1.74
75,000	27	2,020	3.25	1.95
100,000	18	1,800	3.25	1.95

200 WATT SIZES—Type UUX

RATING: 200 Watts up to 30,000 ohms in free air, entire element. Higher resistance units rated as listed in table. 10½″ long, 1¼″ overall diameter, ¾″ inside diameter. Supplied with mounting brackets, 11⅜″ mounting centers, and one adjustable terminal. Has soldering lug terminals.

Ohms	Max. Current in Mills	Max. Voltage	List Price	Net Price
25	2,830	70	$3.00	$1.80
50	2,000	100	3.00	1.80
100	1,414	140	3.00	1.80
500	632	315	3.00	1.80
1,000	447	447	3.00	1.80
2,500	283	705	3.00	1.80
5,000	200	1,000	3.00	1.80
10,000	141	1,400	3.00	1.80
15,000	115	1,725	3.50	2.10
20,000	100	2,000	3.50	2.10
25,000	89	2,200	3.50	2.10
40,000	63	2,500	3.50	2.10
50,000	49	2,450	3.50	2.10
75,000	30	2,200	3.50	2.10
100,000	20	2,200	3.50	2.10

EXTRA ADJUSTABLE TERMINALS

	List	Net
Type C–For model CCX	$0.10	$0.06
Type E–For model EEX	.10	.06
Type K–For model KKX	.10	.06
Type NPU–For models NNX-PPX-UUX....	.10	.06

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

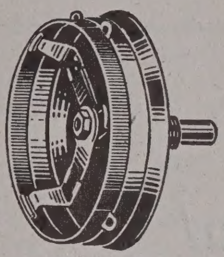
utah — CARTER PARTS

"T" PAD AND "L" PAD WIREWOUND ATTENUATORS

For controlling volume in circuits and microphones, loudspeakers, phonograph pick-ups, mixers, audio and public address amplifiers and similar uses.

10-WATT "T" PADS OPEN FRAME TYPE

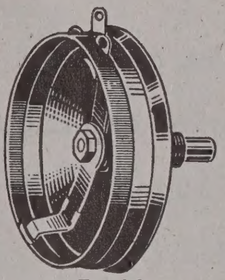
BODY: 2$\frac{11}{16}$″ diameter, $\frac{27}{32}$″ deep.
BUSHING: $\frac{7}{16}$″ diameter, ⅜″ long.
SHAFT: ¼″ diameter, $\frac{7}{16}$″ long, from bushing.
Mounts in single $\frac{7}{16}$″ hole.
Supplied with one mounting nut and two insulating washers for $\frac{39}{64}$″ hole.
10 watts (+32.2 DB level*) for average program material.
5 watts (+29.2 DB level*) steady tone, in infinite attenuation or "silent" position.
Effective rotation: 82 degrees.


Type TA

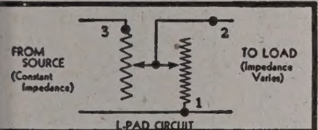
Stock No.	Impedance	List	Net
TA-8	8 Ohms	$3.75	$2.25
TA-16	16 Ohms	3.75	2.25
TA-50	50 Ohms	3.75	2.25
TA-200	200 Ohms	3.75	2.25
TA-500	500 Ohms	3.75	2.25
TA-1000	1000 Ohms	3.75	2.25

15-WATT "L" PADS OPEN FRAME TYPE

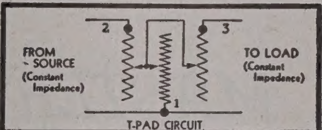
BODY: 2$\frac{11}{16}$″ diameter, $\frac{27}{32}$″ deep.
BUSHING: $\frac{7}{16}$″ diameter, ⅜″ long.
SHAFT: ¼″ diameter, $\frac{7}{16}$″ long, from bushing.
Mounts in single $\frac{7}{16}$″ hole.
Supplied with one mounting nut and two insulating washers for $\frac{39}{64}$″ hole.
15 watts (+34.0 DB level*) for average program material.
7½ watts (+31.0 DB level*) steady tone, in infinite attenuation or "silent" position.
Effective rotation: 142 degrees.


Type LA

Stock No.	Impedance	List	Net
LA-8	8 Ohms	$3.25	$1.95
LA-16	16 Ohms	3.25	1.95
LA-50	50 Ohms	3.25	1.95
LA-200	200 Ohms	3.25	1.95
LA-500	500 Ohms	3.25	1.95
LA-1000	1000 Ohms	3.25	1.95

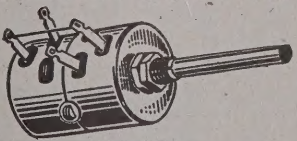


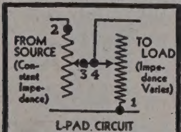
L-PAD CIRCUIT


2
3
FROM SOURCE (Constant Impedance)
TO LOAD (Constant Impedance)
1
T-PAD CIRCUIT

8-WATT "L" PADS ENCLOSED DUAL TYPE

BODY: 1$\frac{7}{16}$″ diameter, 1½″ deep.—BUSHING: ⅜″ diameter, ⅜″ long.—SHAFT: ¼″ diameter, 1½″ long from bushing—Mount in Single ⅜″ hole. Supplied with two hex. mounting nuts.—8 watts (+31.2 DB level*) for average program material.—4 watts (+28.2 DB level*) steady tone, in infinite attenuation or "silent position.—Effective rotation: 276 degrees. All electrical parts insulated from housing.


Type LE

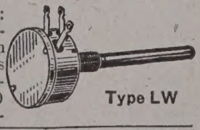


L-PAD. CIRCUIT

Stock No.	Impedance	List	Net
LE-8	8 Ohms	$2.50	$1.50
LE-16	16 Ohms	2.50	1.50
LE-50	50 Ohms	2.50	1.50
LE-200	200 Ohms	2.50	1.50
LE-500	500 Ohms	2.50	1.50
LE-1000	1000 Ohms	2.50	1.50

4-WATT "L" PADS ENCLOSED SINGLE TYPE

BODY: 1$\frac{7}{16}$″ diameter, $\frac{11}{16}$″ deep.—BUSHING: ⅜″ diameter, ⅜″ long.—SHAFT: ¼″ diameter, 1½″ long from bushing. Mount in Single ⅜″ hole.—Supplied with two brass hex Mounting nuts. All electrical parts insulated from housing. Effective rotation 120 degrees. 4 watts (+28.2 DB level*) for average program material. 1¾″ watts (+24.6 DB level*) steady tone, in infinite attenuation or "silent" position. Same connections as for Type LA Open Frame Attenuator.


Type LW

Stock No.	Impedance	List	Net
LW-8	8 Ohms	$1.50	$0.90
LW-16	16 Ohms	1.50	.90
LW-50	50 Ohms	1.50	.90
LW-200	200 Ohms	1.50	.90
LW-500	500 Ohms	1.50	.90
LW-1000	1000 Ohms	1.50	.90

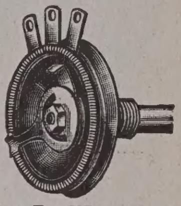
* Using Zero level of 6 milliwatts.

WIREWOUND POTENTIOMETERS AND RHEOSTATS

The many years of continued preference for these pioneers of the small variable resistor field proves their dependability and high quality. Resistance elements clamped permanently in place, in one-piece cadmium-plated all-metal frame. Open construction gives the maximum heat dissipation for their size. Contact arm grounded to bushing and frame.

3-WATT POTENTIOMETERS & RHEOSTATS

BODY: 1$\frac{7}{16}$″ diameter, ¼″ depth behind panel.
BUSHING: ⅜″ diameter, ⅜″ long.
SHAFT: ¼″ diameter, 1½″ long from bushing.
Pots: Three terminals, no off position.
Rheostats: 2 terminals, with off position.
Effective rotation: 285 degrees.
Mounts in single ⅜″ hole.
Supplied with one hex. mounting nut, one flat and one swedged insulating washer for $\frac{7}{16}$″ hole.


Typ MP

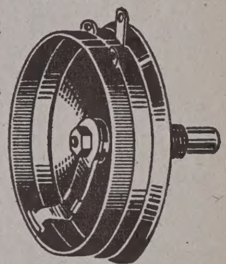
STOCK VALUES IN OHMS

½	6	25	75	500
1	10	30	100	1,000
2	15	40	200	1,500
3	20	50	400	

	LIST	NET
Stock No. MP—Potentiometer, all sizes	$0.50	$0.30
Stock No. MR—Rheostats, all sizes	.50	.30

15-WATT POTENTIOMETERS

BODY: 2$\frac{11}{16}$″ diameter, $\frac{27}{32}$″ depth behind panel.
BUSHING: $\frac{7}{16}$″ diameter, ⅜″ long.
SHAFT: ¼″ diameter, $\frac{7}{16}$″ long from bushing.
Three terminals; no off position.
Effective rotation: 300 degrees.
Wirewound on bakelite strip.
Mounts in single $\frac{7}{16}$″ hole.
Supplied with one hex. mounting nut, two extruded insulating washers for $\frac{39}{64}$″ hole.


Type PW

Stock No.	Resist. in Ohms	Stock No.	Resist. in Ohms
PW-100	100	PW-1M	1000
PW-150	150	PW-2M	2000
PW-200	200	PW-3M	3000
PW-250	250	PW-5M	5000
PW-300	300	PW-7500	7500
PW-400	400	PW-10M	10000
PW-500	500	PW-20M	20000
PW-800	800	PW-50M	50000

	LIST	NET
Stock No. PW—Potentiometers, all sizes	$1.50	$0.90

25-WATT RHEOSTATS

Same size as PW 15-Watt type, but resistance element wound on asbestos-covered steel strip for greater heat disipation.
Two terminals with off position.

Stock No.	Resist. in Ohms	Stock No.	Resist. in Ohms
SW-1	1	SW-60	60
SW-2	2	SW-75	75
SW-3	3	SW-100	100
SW-6	6	SW-150	150
SW-10	10	SW-200	200
SW-15	15	SW-250	250
SW-20	20	SW-300	300
SW-30	30	SW-400	400
SW-40	40	SW-500	500
SW-50	50		

	LIST	NET
Stock No. SW—Rheostats, all sizes	$1.75	$1.05

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

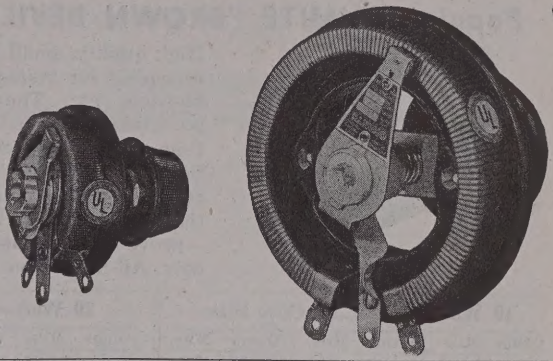
BE RIGHT WITH

OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE RHEOSTATS

All-Porcelain — Vitreous-Enameled

The design and construction of these sturdy, compact Ohmite Rheostats insure permanently smooth, gradual, close control. The wire is wound over a porcelain core, bonded to porcelain base, and permanently locked in place by special Ohmite Vitreous Enamel. Nothing to smoke, char, shrink, or shift. Dissipates heat rapidly. Insulated shafts and bushings. Copper graphite contacts. Ratings are for "free air" use. Time-proved through long trouble-free service in countless installations the world over. Underwriters' Laboratories Listed.



MODEL "H" 25 Watt

Diameter 1 9/16". Depth behind panel 1⅜"

Stock No.	Ohms	Max. Mils.	List Price
0140	1	5,000	$4.50
0141	2	3,540	4.00
0142	3	2,880	4.00
0143	6	2,040	4.00
0144	8	1,770	4.00
0145	10	1,580	4.00
0146	15	1,290	4.00
0147	25	1,000	4.00
0148	35	845	4.00
0149	50	707	4.00
0150	75	575	4.00
0151	100	500	4.00
0152	125	445	$4.00
0153	175	375	4.00
0154	250	316	4.00
0155	350	267	4.00
0156	500	222	4.00
0157	750	182	4.00
0158	1,000	155	4.50
0159	1,500	129	4.50
0160	2,500	100	4.50
0161	3,500	84	4.75
0162	5,000	70	4.75

MODEL "J" 50 Watt

Diameter 2 5/16". Depth behind panel 1⅜"

Stock No.	Ohms	Max. Mils.	List Price
0308	0.5	10,000	$5.00
0309	1	7,070	5.00
0310	2	5,000	5.00
0311	4	3,530	4.50
0312	6	2,880	4.50
0313	8	2,500	4.50
0314	12	2,040	4.50
0315	16	1,760	4.50
0316	22	1,500	4.50
0317	35	1,190	4.50
0318	50	1,000	4.50
0319	80	790	4.50
0320	125	630	4.50
0321	150	575	$4.50
0322	225	470	4.50
0323	300	408	4.50
0324	500	316	4.50
0325	800	250	4.75
0326	1,000	224	4.75
0327	1,600	176	4.75
0328	2,500	141	4.75
0329	3,500	119	5.00
0330	5,000	100	5.00
0331	8,000	79	5.00
0332	10,000	70	5.00

OHMITE SPECIAL RHEOSTATS

for Soldering Iron Control

Adjusts heat of the soldering iron or melting pot for best work and economical operation.

Wattage of Soldering Iron or Pot to be Controlled Watts	Volts	Rheostat Control Stock No.	Cage Dimensions Diam.	Hgt.	List Price Each
40- 65	115	SRC65	3⅛"	2"	$ 7.25
85-100	115	SRC100	3⅛"	2"	7.25
120-150	115	SRC150	3¾"	2⅜"	9.15
175-220	115	SRC220	3¾"	2⅜"	10.00
300-350	115	SRC350	4½"	2⅜"	11.70
430-500	115	SRC500	7½"	3¼"	17.00

MODEL "K" 100 Watt

Diameter 3⅛". Depth behind panel 1¾"

Stock No.	Ohms	Max. Mils.	List Price
0440	0.5	14,100	$7.50
0441	1	10,000	7.50
0442	2	7,070	7.50
0443	3	5,750	7.50
0444	5	4,470	7.50
0445	7.5	3,650	7.00
0446	10	3,160	7.00
0447	16	2,500	7.00
0448	25	2,000	7.00
0449	50	1,410	7.00
0450	75	1,150	7.00
0451	100	1,000	7.00
0452	200	707	$7.00
0453	300	575	7.00
0454	400	500	7.00
0455	500	447	7.00
0456	750	365	7.00
0457	1,000	316	7.50
0458	1,500	258	7.50
0459	2,000	224	7.50
0460	2,500	200	7.50
0461	5,000	141	8.00
0462	7,500	115	8.50
0463	10,000	100	9.00

MODEL "L" 150 Watt

Diameter 4". Depth behind panel 2"

Stock No.	Ohms	Max. Mils.	List Price
0524	0.5	17,300	$9.50
0525	1	12,300	9.50
0526	2	8,650	9.50
0527	3	7,070	9.50
0528	5	5,480	9.50
0529	7.5	4,470	9.50
0530	10	3,880	9.00
0531	15	3,163	9.00
0532	25	2,450	9.00
0533	35	2,070	9.00
0534	50	1,735	9.00
0535	75	1,415	9.00
0536	100	1,225	9.00
0537	150	1,000	$9.00
0538	200	865	9.00
0539	250	775	9.00
0540	350	655	9.00
0541	500	548	9.00
0542	750	447	9.50
0543	1,250	346	9.50
0544	1,800	288	10.00
0545	2,250	259	10.00
0546	3,000	224	10.00
0547	4,500	182	10.50
0548	7,500	141	11.00
0549	10,000	122	12.00

MODEL "N" 300 Watt

Diameter 6". Depth behind panel 2⅜"

Stock No.	Ohms	Max. Mils.	List Price
0650	1	17,320	$13.50
0651	2	12,240	13.50
0652	3	10,000	13.50
0653	4	8,660	13.50
0654	5	7,750	13.50
0655	7.5	6,320	13.50
0656	10	5,480	13.50
0657	15	4,470	13.50
0658	25	3,460	13.50
0659	50	2,450	13.50
0660	75	2,000	13.50
0661	100	1,730	$13.50
0662	150	1,410	13.50
0663	200	1,220	13.50
0664	300	1,000	13.50
0665	400	866	13.50
0666	700	655	13.50
0667	900	578	13.50
0668	1,200	500	13.50
0669	1,500	447	13.50
0670	1,750	414	13.50
0671	2,500	346	13.50

OTHER OHMITE RHEOSTATS

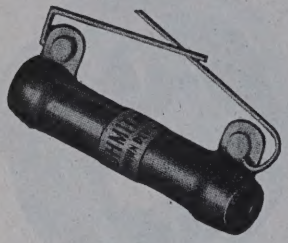
Ohmite Rheostats are also available in Model G, 75 Watt; Model P, 225 Watt; Model R, 500 Watt; Model T, 750 Watt; and Model U, 1,000 Watt units, in many resistance values. Special Rheostats with tapered windings, etc., can be supplied; also Special Rheostats for Model Train Control. Cages and other accessories also available.

For more complete information on OHMITE PRODUCTS, ask for Ohmite Catalog 18.

BE RIGHT WITH

OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

• *Popular* OHMITE "BROWN DEVIL" RESISTORS



High quality, small size, wire wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-porcelain, vitreous enameled. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world—prove their complete reliability and economy. All units have 1½" tinned wire leads.

10 Watt—1¾" x $\frac{5}{16}$" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
1	3,160	150	258	1,500	79
2	2,235	200	223	1,750	74
3	1,825	225	217	2,000	69
4	1,580	250	200	2,250	64
5	1,414	300	182	2,500	63
7.5	1,155	350	169	3,000	56
10	1,000	400	158	3,500	51
12	910	450	149	4,000	47
15	816	500	141	4,500	45
20	707	600	129	5,000	43
25	632	700	119	6,000	38
30	575	750	115	7,000	34
35	535	800	111	7,500	32
40	500	900	105	8,000	31
50	447	1.000	100	8,500	29
75	365	1,100	95	10,000	26
100	316	1,200	91		
125	283	1,250	89		

List Price, any 10 watt unit above $0.45

11,000	24	16,000	18	*30,000	8
12,000	23	17,500	17	*35,000	7
12,500	22	18,000	17	*40,000	7
13,500	21	20,000	16	*45,000	6
14,300	20	22,500	15	*50,000	6
15,000	19	25.000	14		

List Price, any 10 watt unit above $0.50

20 Watt—2" x $\frac{7}{16}$" Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
5	2,000	700	169	2,750	85
10	1,414	750	163	3,000	81
25	894	800	158	3,500	75
50	632	850	153	4,000	70
75	516	1,000	141	4,500	66
100	447	1,200	129	5,000	63
150	365	1,250	126	6,000	57
200	316	1,500	115	7,000	53
250	283	1,750	107	7,500	51
300	258	1,850	104	8,000	50
350	239	2,000	100	10,000	43
400	223	2,250	94	12,500	35
500	200	2,400	91	15,000	30
650	175	2,500	89		

List Price, any 20 watt unit above $0.70

20,000	24	35,000	15	45,000	13
25,000	20	40,000	14	50,000	12
30,000	17				

List Price, any 20 watt unit above $0.85

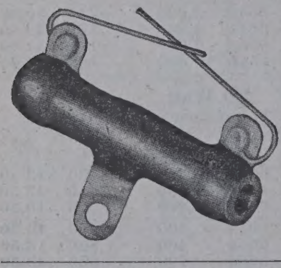
*55,000	8.0	*75,000	7.0	*90,000	6.0
*60,000	8.0	*80,000	7.0	*95,000	6.0
*65,000	7.0	*85,000	6.0	*100,000	6.0
*70,000	7.0				

List Price, any 20 watt unit above $1.10

*The units marked with an asterisk are coated with a low temperature enamel.

OHMITE CENTER-TAPPED RESISTORS

Compact, Accurate, Convenient



"Wirewatt" and "Brown Devil" center-tapped resistors especially designed for use across radio transmitter tube filaments to provide an electrical center for the grid and plate returns. Should be connected as closely as possible to the tube socket. Center tap accurate to plus or minus 1%.

"WIREWATT" 1 Watt

Res. Ohms	For Heater or Filament Voltage up to	Max. Volts	List Price
10	2.5	3.15	$0.35
15	2.5	3.85	.35
*20	2.5	4.4	.35
25	2.5	5.0	.35
30	2.5	5.4	.35
40	2.5	6.3	.35
*50	5.0	7.0	.35
75	5.0	8.6	.35
*100	6.3	10.0	.35
200	6.3	14.0	.35

"BROWN DEVIL" 10 Watt

Res. Ohms	ForHeater or Filament Voltage up to	Max. Volts	List Price
10	6.3	10.0	$0.55
15	6.3	12.2	.55
*20	7.5	14.0	.55
25	7.5	15.8	.55
30	7.5	17.3	.55
40	10.0	20.0	.55
*50	10.0	22.3	.55
75	10.0	27.3	.55
*100	12.0	31.5	.55
200	12.0	44.5	.55

*Shows most popular sizes.

OHMITE "WIREWATT"

1 Watt wire-wound Resistor

Wire-wound on porcelain and insulated with low temperature enamel. Ends of the wire are mechanically locked and then brazed to terminal lugs to insure freedom from noise. 1½" tinned wire leads. RMA color coded, and labeled with the resistance. Size 1¾" x ¼".

Ohms	Mils.	Volts	Ohms	Mils.	Volts
100	100	10	2,250	21	47
125	89	11	2,500	20	50
150	81	12	3,000	18	54
200	70	14	3,500	16	59
250	63	15	4,000	15	63
300	57	17	4,500	14	67
350	53	18	5,000	14	70
400	50	20	6,000	12	77
500	44	22	7,000	11	83
600	40	24	7,500	11	86
700	37	26	8,000	11	89
750	36	27	9,000	10	95
800	35	28	10,000	10	100
900	33	30	12,500	9	112
1,000	31	31	15,000	8	122
1,100	30	33	16,000	7	126
1,200	28	34	17,500	7	132
1,250	28	35	18,000	7	134
1,500	25	38	20,000	7	141
1,750	23	41	22,500	6	150
2,000	22	44	25,000	6	158

List Price..$0.25

OHMITE
RITEOHM "81"
1% ACCURATE
PRECISION
RESISTOR

RITEOHM "81"

Precision Resistors

High quality, 1% accurate, 1 watt, non-inductive, pie-wound Precision Resistors for voltmeter multipliers, laboratory equipment, radio and electrical test sets, attenuation pads, etc. Special Ohmite vacuum-type impregnation provides complete protection. Size $\frac{9}{16}$"x1¾". Equipped with soldering lugs and threaded stud terminals.

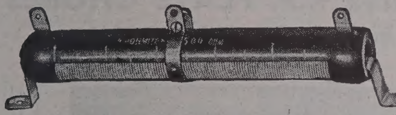
Available in many stock resistance values from 0.1 ohm to 2 megohms. For complete listing, see Ohmite Catalog 18. (Also available in closer tolerances.)

Riteohm "71" Vitreous-Enameled Precision Resistors and Riteohm Series "90" Hermetically-Glass-Sealed Precision Resistors are also available.

For more complete information on OHMITE PRODUCTS, ask for Ohmite Catalog 18.

BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

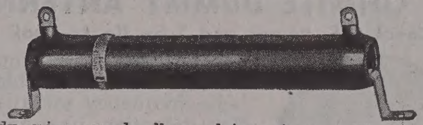
OHMITE DIVIDOHM RESISTORS



You can adjust the resistance or secure odd resistance values quickly with these Dividohms; easily put on more taps where needed. Ideal voltage dividers. With one adjustable lug and with mounting brackets.

All-Porcelain Vitreous-Enameled

OHMITE FIXED RESISTORS



Extra-sturdy, wire-wound, all-porcelain resistors with the permanent protection of Ohmite Vitreous Enamel. Widely used for heavy duty applications to assure continuous trouble-free service. With mounting brackets.

10 WATTS

Core Size 1¾"x5/16" Mounting Centers 2¼"

Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
1	3,150	1001	750	115	1021
2	2,235	1002	800	111	1022
3	1,825	1003	1,000	100	1023
5	1,415	1004	1,250	89	1024
7.5	1,155	1005	1,500	79	1025
10	1,000	1006	2,000	69	1026
15	816	1007	2,250	64	1027
20	707	1008	2,500	63	1028
25	632	1009	3,000	56	1029
50	447	1010	3,500	51	1030
75	365	1011	4,000	47	1031
100	316	1012	4,500	45	1032
150	258	1013	5,000	43	1033
200	223	1014	6,000	38	1034
250	200	1015	7,000	34	1035
300	182	1016	7,500	33	1036
350	169	1017	8,000	31	1037
400	158	1018	8,500	29	1038
500	141	1019	9,000	28	1039
600	129	1020	10,000	26	1040

List Price, any above unit....................**$0.75**

75 WATTS

Core Size 6"x9/16" Mounting Centers 6¾"

Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils.	Stock No.
5	3,870	0769	5,000	122	0783
10	2,735	0770	6,000	111	0783B
15	2,236	0771	7,000	103	0783C
25	1,732	0772	7,500	100	0784
50	1,224	0773	8,000	96	0784B
100	866	0774	9,000	91	0784C
200	612	0774B	10,000	86	0785
250	547	0775	12,000	79	0785B
300	500	0775B	15,000	70	0786
400	433	0775C	20,000	61	0787
500	387	0776	25,000	52	0788
750	316	0777	30,000	47	0789
1,000	273	0778	35,000	38	0790
1,250	245	0778B	40,000	33	0791
1,500	223	0779	45,000	28	0792
2,000	193	0780	50,000	25	0793
2,500	173	0781	60,000	19	0794
3,000	158	0781B	80,000	17	0795
3,500	146	0782	100,000	13	0796
4,000	136	0782B			

List Price, 5 to 5,000 ohms....................**$1.95**
List Price, 6,000 to 25,000 ohms........... **2.20**
List Price, 30,000 to 50,000 ohms......... **2.50**
List Price, 60,000 to 100,000 ohms **2.75**

160 Watt Resistors—Core Size 8½"x1⅛". Mounting Centers 9⅜"—available in same resistances as the 200 Watt Resistors.

Ohms	Fixed Res. List Price	Adj. Res. List Price
5 to 10,000	**$2.20**	**$2.75**
15,000 to 50,000	**2.65**	**3.20**
60,000 to 100,000	**3.00**	**3.50**

ADJUSTABLE LUGS

Bakelite Knob			Screw Driver Type		
Res. Dia.	Stock No.	List Price	Res. Dia.	Stock No.	List Price
9/16"	0359	**$0.15**	5/16"	1058	**$0.10**
¾"	1959	**.25**	9/16"	0358	**.10**
1⅛"	2159	**.25**	¾"	1958	**.15**
			1⅛"	2158	**.15**

25 WATTS

Core Size 2"x9/16" Mounting Centers 2¾"

		Fixed Resist.		Adj. Resist.	
Res. Ohms	Max. Mils.	Stock No.	List Price	Stock No.	List Price
1	5,000			0360	**$0.95**
2	3,535			0360B	**.95**
3	2,885			0361	**.95**
5	2,235	0200A	**$0.80**	0362	**.95**
7.5	1,825			0362B	**.95**
10	1,580	0200B	**.80**	0363	**.95**
15	1,290			0364	**.95**
20	1,117			0364B	**.95**
25	1,000	0200C	**.80**	0365	**.95**
50	707	0200D	**.80**	0366	**.95**
75	577	0200E	**.80**	0367	**.95**
100	500	0200F	**.80**	0368	**.95**
150	408	0200G	**.80**	0369	**.95**
200	353	0200H	**.80**	0370	**.95**
250	316	0201	**.80**	0271	**.95**
300	288			0371B	**.95**
400	250			0371C	**.95**
500	223	0202	**.80**	0372	**.95**
750	182	0203	**.80**	0373	**.95**
800	176	0204	**.80**	0374	**.95**
1,000	158	0205	**.80**	0375	**.95**
1,250	141			0375B	**.95**
1,500	129	0206	**.80**	0376	**.95**
2,000	111	0207	**.80**	0377	**.95**
2,250	105			0377B	**.95**
2,500	100	0208	**.80**	0378	**.95**
3,000	91	0209	**.80**	0379	**.95**
3,500	84	0210	**.80**	0380	**.95**
4,000	79	0211	**.80**	0381	**.95**
4,500	74			0381B	**.95**
5,000	70	0212	**.80**	0382	**.95**
6,000	64	0213	**.90**	0383	**1.10**
7,000	60			0383B	**1.10**
7,200	59			0383C	**1.10**
7,500	57	0214	**.90**	0384	**1.10**
8,000	55			0384B	**1.10**
9,000	52			0384C	**1.10**
10,000	50	0215	**.90**	0385	**1.10**
12,000	42	0216	**.90**	0386	**1.10**
15,000	34	0217	**.90**	0387	**1.10**
20,000	26	0218	**1.10**	0388	**1.20**
25,000	21	0219	**1.10**	0389	**1.20**
40,000	14	0222	**1.10**		
50,000	12	0224	**1.10**		
100,000	7	0229	**1.90**		

100 WATTS

Core Size 6½"x¾" Mounting Centers 7⅜"

5	4,470	0600A	**$1.65**	0956	**$2.20**
10	3,160	0600B	**1.65**	0957	**2.20**
25	2,000	0601	**1.65**	0958	**2.20**
50	1,414	0602	**1.65**	0959	**2.20**
75	1,153	0603	**1.65**		
100	1,000	0604	**1.65**	0960	**2.20**
150	816	0605	**1.65**		
250	632	0606	**1.65**	0960B	**2.20**
500	447	0607	**1.65**	0961	**2.20**
750	365	0608	**1.65**		
1,000	316	0609	**1.65**	0962	**2.20**
1,500	258	0610	**1.65**	0962B	**2.20**
2,000	223	0611	**1.65**		
2,500	200	0612	**1.65**	0963	**2.20**
3,000	182	0613	**1.65**		
5,000	141	0614	**1.65**	0964	**2.20**
7,500	115	0615	**1.95**		
10,000	100	0615	**1.95**	0965	**2.50**
15,000	81	0617	**1.95**	0966	**2.50**
20,000	70	0618	**1.95**	0967	**2.50**
25,000	53	0619	**1.95**	0968	**2.50**
30,000	47	0620	**2.20**	0969	**2.75**
40,000	36	0621	**2.20**	0970	**2.75**
50,000	29	0622	**2.20**	0971	**2.75**
60,000	24	0623	**2.50**		
75,000	19	0624	**2.50**	0972	**3.00**
100,000	15	0625	**2.75**	0973	**3.00**

50 WATTS

Core Size 4"x9/16" Mounting Centers 4¾"

		Fixed Resist.		Adj. Resist.	
Res. Ohms	Max. Mils.	Stock No.	List Price	Stock No.	List Price
5	3,160	0400A	**$1.20**	0560	**$1.50**
10	2,235	0400B	**1.20**	0561	**1.50**
25	1,414	0400C	**1.20**	0562	**1.50**
50	1,000	0400D	**1.20**	0563	**1.50**
75	816	0400E	**1.20**	0564	**1.50**
100	707	0400F	**1.20**	0565	**1.50**
150	577	0400G	**1.20**	0566	**1.50**
200	500	0400H	**1.20**	0567	**1.50**
250	447	0401	**1.20**	0568	**1.50**
300	408			0568B	**1.50**
400	353			0568C	**1.50**
500	316	0402	**1.20**	0569	**1.50**
750	258	0403	**1.20**	0570	**1.50**
1,000	223	0405	**1.20**	0572	**1.50**
1,250	200			0572B	**1.50**
1,500	182	0406	**1.20**	0573	**1.50**
2,000	158	0407	**1.20**	0574	**1.50**
2,500	141	0408	**1.20**	0575	**1.50**
3,000	129	0409	**1.20**	0576	**1.50**
3,500	119			0576B	**1.50**
4,000	111	0410	**1.20**	0577	**1.50**
4,500	105			0577B	**1.50**
5,000	100	0411	**1.20**	0578	**1.50**
6,000	91			0578B	**1.65**
7,000	84			0578C	**1.65**
7,500	81	0412	**1.40**	0579	**1.65**
8,000	79	0413	**1.40**	0580	**1.65**
9,000	74			0580B	**1.65**
10,000	70	0414	**1.40**	0581	**1.65**
12,000	64	0415	**1.40**	0582	**1.65**
15,000	57	0416	**1.40**	0583	**1.65**
20,000	48	0417	**1.40**	0584	**1.65**
25,000	41	0418	**1.40**	0585	**1.65**
30,000	41			0586	**1.90**
35,000	32	0419	**1.60**		
40,000	35			0587	**1.90**
50,000	23	0420	**1.60**	0588	**1.90**
60,000	20			0589	**2.20**
75,000	16	0421	**1.60**		
80,000	15			0590	**2.20**
100,000	12	0422	**1.60**	0591	**2.20**

200 WATTS

Core Size 10½"x1⅛" M'nt'ng Centers 11⅜"

5	6,320	0900A	**$2.75**	1356	**$3.30**
10	4,470	0900B	**2.75**	1357	**3.30**
25	2,828	0901	**2.75**	1358	**3.30**
50	2,000	0902	**2.75**	1359	**3.30**
75	1,635	0903	**2.75**		
100	1,414	0904	**2.75**	1360	**3.30**
150	1,153	0905	**2.75**		
250	894	0906	**2.75**	1360B	**3.30**
500	632	0907	**2.75**	1361	**3.30**
750	516	0908	**2.75**		
1,000	447	0909	**2.75**	1362	**3.30**
1,500	365	0910	**2.75**	1362B	**3.30**
2,000	316	0911	**2.75**		
2,500	283	0912	**2.75**	1363	**3.30**
3,000	258	0913	**2.75**		
5,000	200	0914	**2.75**	1364	**3.30**
7,500	163	0915	**2.75**		
10,000	141	0916	**2.75**	1365	**3.30**
15,000	115	0917	**3.30**	1366	**3.85**
20,000	100	0918	**3.30**	1367	**3.85**
25,000	89	0919	**3.30**	1368	**3.85**
30,000	81	0920	**3.30**	1369	**3.85**
40,000	61	0921	**3.30**	1370	**3.85**
50,000	49	0922	**3.30**	1371	**3.85**
60,000	41	0923	**3.30**		
75,000	33	0924	**3.30**	1372	**3.85**
100,000	25	0925	**3.30**	1373	**3.85**

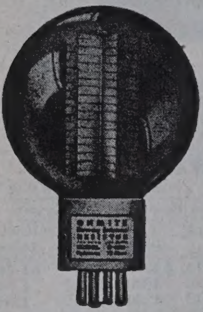
For more complete information on OHMITE PRODUCTS, ask for Ohmite Catalog 18.

BE RIGHT WITH

OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE DUMMY ANTENNA

To Check R.F. Power and Tune Up to Peak Efficiency



For the first time, a compact, high-wattage resistor suitable for high radio-frequency measurements. Non-inductive, non-capacitive, constant in resistance. Provides a simple, accurate, direct means of measuring R. F. power in all transmitter stages for the purpose of tuning up to maximum efficiency. Used to determine transmission line losses—to check line to antenna impedance match—to keep signal off the air while tuning up—to eliminate unnecessary interference—and generally useful as a non-inductive resistor in other R. F. Circuits.

Space-wound resistance element of unusual design, mounted in a glass bulb, evacuated and gas filled. Four-prong steatite standard tube base. Several units can be connected in various ways for higher wattages.

Model D-100. 100 Watt rating. In popular 73 ohm and 600 ohm resistance values. Also in 13, 18, 34, 64, 100, 146, 219, 300, 400, 500 ohm values. Diameter 3⅛″. Height (from bottom of base) 4⅜″.

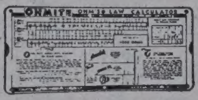
List Price......................................**$6.50**

Model D-250. 250 Watt rating. In 73 ohm and 600 ohm stock resistances. Diameter of bulb 2½″. Height 9 1/16″ (from bottom of base).

List Price......................................**$13.00**

Non-Inductive Vitreous-Enameled Resistors also available. See Ohmite Catalog 18.

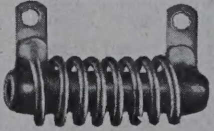
OHMITE OHM'S LAW CALCULATOR



This handy calculator, designed by Ohmite engineers, solves Ohm's Law problems with only one setting of the slide. No decimal points to cause confusion—all values are direct reading. Requires no slide rule knowledge. Scales on two sides of the calculator cover both the range of currents, resistances, wattages, and voltages commonly used in the radio and electronic fields, and the higher current industrial range up to 100 amperes or 1000 watts. A convenient stock unit selector tells the stock number of the unit you may need. Size 4⅛″ x 9″.

Ohmite Ohm's Law Calculator..........NET Price $0.10

OHMITE PARASITIC SUPPRESSOR



Designed to prevent unwanted ultra-high-frequency parasitic oscillations which occur in the plate and grid leads of push-pull and parallel tube circuits. The parasitics are suppressed, without loss of driving power.

The P-300 is an non-inductive, vitreous-enameled resistor combined with a choke into one small integral unit. Only 1¾″ long overall and ⅝″ diameter.

Model P-300. List Price.........................**$1.50**

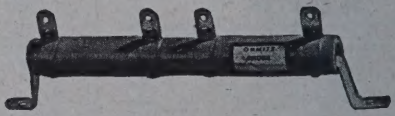
OHMITE R.F. PLATE CHOKES

Built to Carry 1,000 M.A.

High frequency solenoid chokes designed to avoid fundamental or harmonic resonance in the amateur bands. Single-layer wound on low power factor steatite core—insulated and protected by moisture-proof coating. No portion can resonate independently of any other portion. Designed also to prohibit breakdown from high R. F. potentials. Ample space allowed at the ends to prevent flashover to ground. Non-magnetic mounting brackets furnished with the three larger sizes. Rated at 1,000 milliamperes. May be used in diathermy and therapeutic equipment as well as in radio transmitters.

Stock No.	Amateur Band, Meters	Micro-henries	Current Rating	D.C. Resistance Ohms	Lgth.	Tube Dia.	List Price
Z-0	2½	2.0	1,000 M.A.	0.19	1¾″	¼″	$0.25
Z-1	5	5.5	1,000 M.A.	0.85	1¾″	¼″	.25
Z-2	10 and 20	30	1,000 M.A.	2	3″	9/16″	.80
Z-3	20 and 40	90	1,000 M.A.	5	6″	9/16″	1.20
Z-4	20, 40, 80 and 160	200	1,000 M.A.	9	6½″	¾″	1.65

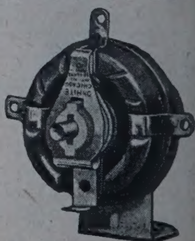
OHMITE POWER LINE CHOKES



Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. Used as a filter in connection with two grounding condensers of 0.1 microfarad capacity each. The Z-20 Choke is also used at radio receivers to keep out interference. All chokes consist of two single-layer windings on a single ceramic core—insulated and protected by moisture-proof coating. Recommended for use in suppressing radio (not audio) frequency interference.

Stock No.	Micro-henries	Current Rating	Total D.C. Resistance Ohms	Lgth.	Tube Dia.	List Price
Z-20	14	5 Amperes	0.15	4″	9/16″	$1.65
Z-21	15	10 Amperes	0.07	6½″	¾″	2.75
Z-22	18	20 Amperes	0.045	8½″	1⅛″	4.00

TRANSMITTER BAND CHANGE AND HIGH VOLTAGE SWITCH



For the rapid, convenient change of transmitter frequency by front-of-panel knob control. Suitable for circuits up to 1 K. W. rating. Adaptable for general use requiring high voltage insulation.

Model BC-3. Complete with Knob and Mounting Bracket.

List Price..................**$3.30**

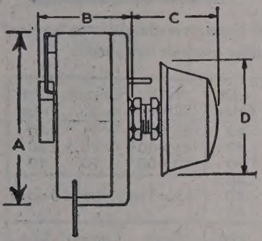
For more complete information on OHMITE PRODUCTS, ask for Ohmite Catalog 18.

WARD LEONARD
ACCEPTED MEASURE OF QUALITY

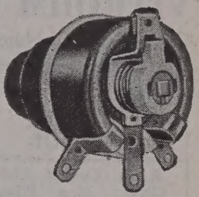
RESISTORS
RHEOSTATS
RELAYS

VITROHM RING TYPE RHEOSTATS

The core and base of Ward Leonard Ring Type Rheostats are made of the highest grade ceramic materials. The resistance wire is wound toroidally on the core, and is coated with a tough, heat resistant, acid resistant, crazeless vitreous enamel.



Type Number	Approx. Dimensions (In Inches)			
	A	B	C	D
1105	1 9/16	1 3/16	1	1 1/8
1106	2 5/16	1 5/16	1 1/8	1 1/2
1107	3 5/32	1 3/4	1 1/8	1 1/2
1108	3 13/16	2	1 1/8	1 1/2



The contact is a special alloy and is of large area to avoid sticking, pitting, local heating, or oxidation when setting remains fixed for a long period of time.

Watt Ratings.—Based on continuous operation in free air with a temperature rise not to exceed 300° C, which is within the limits specified by Underwriters' Laboratories and NEMA.

Number of Steps.—Each turn of resistance wire on the core of a Vitrohm Ring Type Rheostat constitutes a step of change in the resistance value.

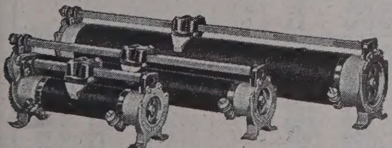
Vitrohm Ring Type Rheostats are made with three terminals with no "off" position, and can be used as potentiometers or rheostats, as desired. Rheostats with an "off" position can be furnished, if specified.

The resistance values shown in the accompanying table have been selected as standard values for stock purposes. They follow a definite pattern, and all resistance values up to 10,000 ohms (up to 4,000 ohms for the 25-watt unit) are covered in steps that increase progressively as of about ±20% Intermediate values can be furnished as specified.

Order by Type Number and Resistance Value.

TOTAL RESIS. OHMS.	25 WATT—TYPE 1105			50 WATT—TYPE 1106			100 WATT—TYPE 1107			150 WATT—TYPE 1108		
	Max. Current m. a.	Approx. No. of Steps	List Price	Max. Current m. a.	Approx. No. of Steps	List Price	Max. Current m. a.	Approx. No. of Steps	List Price	Max. Current m. a.	Approx. No. of Steps	List Price
0.64	.....	..	....	8,850	30	$5.00	12,500	31	$7.50	15,000	43	$9.50
1.0	5,000	45	$4.50	7,070	49	5.00	10,000	41	7.50	12,250	43	9.50
1.6	3,950	45	4.00	5,590	59	5.00	7,900	41	7.50	9,680	54	9.50
2.5	3,160	54	4.00	4,470	69	4.50	6,320	52	7.50	7,750	54	9.50
4.0	2,500	72	4.00	3,535	69	4.50	5,000	62	7.00	6,120	54	9.50
6.4	1,980	90	4.00	2,795	119	4.50	3,950	72	7.00	4,840	54	9.00
10.0	1,580	90	4.00	2,235	150	4.50	3,160	72	7.00	3,870	118	9.00
16.	1,250	108	4.00	1,760	140	4.50	2,500	156	7.00	3,060	118	9.00
25.	1,000	103	4.00	1,415	188	4.50	2,000	196	7.00	2,450	204	9.00
40.	791	137	4.00	1,120	150	4.50	1,580	235	7.00	1,935	245	9.00
64.	625	137	4.00	884	188	4.50	1,250	274	7.00	1,530	286	9.00
100.	500	171	4.00	707	225	4.50	1,000	274	7.00	1,225	367	9.00
160.	395	205	4.00	559	263	4.50	790	313	7.00	968	326	9.00
250.	316	240	4.00	447	300	4.50	632	313	7.00	775	408	9.00
400.	250	274	4.00	353	375	4.50	500	392	7.00	612	408	9.00
640.	198	308	4.00	279	413	4.75	395	392	7.00	484	489	9.50
1000.	158	390	4.50	223	450	4.75	316	470	7.50	387	620	9.50
1600.	125	411	4.50	176	570	4.75	250	595	7.50	306	620	10.00
2,500.	100	520	4.50	141	570	4.75	200	744	7.50	245	775	10.00
4,000.	79	520	4.75	112	713	5.00	158	744	8.00	193	930	10.50
6,400.	.....	....	.....	88	885	5.00	125	1041	8.50	153	1085	11.00
10,000.	.....	....	.....	70	988	5.00	100	1041	9.00	122	1240	12.00

SLIDING CONTACT RHEOSTATS



Ward Leonard Sliding Contact Rheostats are precision instruments for accurate control of currents up to 25 amperes and voltages within their ratings.

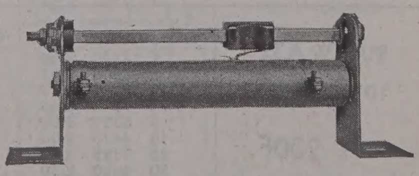
Cast aluminum end pieces; sturdy glazed porcelain tube used as the base for the resistance winding. Positive contact between slider and wire maintained by the use of laminated phosphor bronze brushes, assuring long, trouble-free life. All units arranged for potentiometer connection.

The resistance wire has a low temperature coefficient of restivity and is heavily oxidized, making each turn of wire a step of control.

Sliding Contact Rheostats can be furnished in a wide variety of styles, sizes, and designs.

Vitrohm Slider Resistors

Ward Leonard Vitrohm Slider Resistors are convenient and economical units for use in laboratory set-ups where accurate, continuous adjustment of relatively small loads is required. About one-fifth of the surface area of the vitreous enameled resistor is exposed to provide contact with a phosphor bronze slider that moves on a brass bar that is completely insulated from the pressed steel end pieces and mounting brackets.



Prices on all Ward Leonard Sliding Contact Rheostats are available on request.

WARD LEONARD
ACCEPTED MEASURE OF QUALITY

**RESISTORS
RHEOSTATS
RELAYS**

VITROHM FIXED RESISTORS

Order by Type Number and Resistance Value.

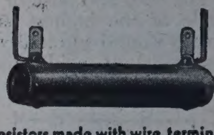
Wire wound resistors, sturdy construction, using low temperature coefficient materials. Coated with Ward Leonard's own crazeless Green Enamel.

10 WATT
1¾" x 5/16"
TYPE 10F

Resis. Ohms.	Current m. a.	List Price
1	3160	.40
1.5	2580	.40
2	2235	.40
3	1825	.40
4	1580	.40
5	1415	.40
7.5	1155	.40
10	1000	.40
12	913	.40
15	815	.40
20	707	.40
25	630	.40
30	577	.40
35	534	.40
40	500	.40
50	450	.40
75	365	.40
100	316	.40
125	283	.40
150	258	.40
200	224	.40
225	211	.40
250	200	.40
300	182	.40
350	169	.40
400	158	.40
450	149	.40
500	142	.40
600	129	.40
700	120	.40
750	115	.40
800	110	.40
900	105	.40
1,000	100	.40
1,100	95	.40
1,200	91	.40
1,250	89	.40
1,500	81	.40
1,750	75	.40
2,000	70	.40
2,250	66	.40
2,500	63	.40
3,000	58	.40
3,500	53	.40
4,000	50	.40
4,500	47	.40
5,000	45	.40
6,000	41	.40
7,000	38	.40
7,500	36	.40
8,000	35	.40
8,500	34	.40
9,000	33	.40
10,000	30	.40
11,000	27	.40
12,000	25	.40
12,500	24	.40
13,500	22	.40
14,300	21	.40
15,000	20	.40
16,000	19	.40
17,500	17	.40
18,000	16	.40
20,000	15	.40
22,500	13	.40
25,000	12	.40
30,000*	13	.40
35,000*	12	.40
40,000*	11	.40
45,000*	10.5	.40
50,000*	10	.40

*Low Temp. Rated 5 watts

10 WATT AND 20 WATT



Types 10F and 20F Resistors made with wire terminal leads. No mounting brackets furnished.

20 WATT
2" x 9/16"
TYPE 20F

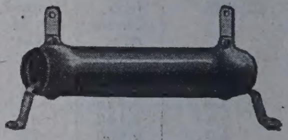
Resis. Ohms.	Current m. a.	List Price
1	4480	.65
3	2580	.65
5	2000	.65
10	1410	.65
15	1150	.65
25	900	.65
50	630	.65
75	510	.65
100	450	.65
150	365	.65
175	340	.65
200	320	.65
250	285	.65
300	258	.65
350	240	.65
400	220	.65
500	200	.65
650	175	.65
700	169	.65
750	160	.65
800	155	.65
850	153	.65
1,000	141	.65
1,200	130	.65
1,250	125	.65
1,500	115	.65
1,750	107	.65
1,850	104	.65
2,000	100	.65
2,250	94	.65
2,400	91	.65
2,500	90	.65
2,750	85	.65
3,000	80	.65
3,500	76	.65
4,000	70	.65
4,500	67	.65
5,000	63	.65
6,000	55	.65
7,000	53	.65
7,500	51	.65
8,000	50	.65
10,000	40	.65
12,500	32	.65
15,000	27	.65
20,000	20	.75
25,000	16	.75
30,000	13	.75
35,000	11	.75
40,000	10	.75
45,000	9	.75
50,000	8	.75
55,000	7	1.00
60,000*	10.8	1.00
65,000*	10.5	1.00
70,000*	10	1.00
75,000*	9.5	1.00
80,000*	9.3	1.00
85,000*	9.1	1.00
90,000*	8.8	1.00
95,000*	8.6	1.00
100,000*	8.4	1.00

*Low Temp. Rated 7 watts

25 WATT
2" x 5/8"
TYPE 25F

Resis. Ohms.	Current m. a.	List Price
1	5000	.75
2	3535	.75
3	2890	.75
4	2500	.75
5	2235	.75
10	1580	.75
15	1290	.75
25	1000	.75
50	710	.75
75	580	.75
100	500	.75
150	410	.75
200	354	.75
250	315	.75
300	289	.75
400	250	.75
500	224	.75
750	182	.75
800	177	.75
850	170	.75
1,000	158	.75
1,250	140	.75
1,500	129	.75
2,000	112	.75
2,500	100	.75
3,000	90	.75
3,500	85	.75
4,000	80	.75
5,000	70	.75
6,000	65	.85
7,500	53	.85
8,500	47	.85
10,000	40	.85
12,000	33	.85
15,000	27	.85
20,000	20	1.00
25,000	16	1.00
30,000	13	1.00
35,000	11	1.00
40,000	10	1.00
50,000	8	1.00
60,000	6.7	1.15
70,000	5.7	1.20
75,000	5.3	1.25
80,000	5	1.35
100,000	4	1.75

HEAVY DUTY



Resistors rated at 25 watts or over are furnished with mounting brackets and lug type terminals. Prices shown include brackets.

50 WATT
3½" x ¾"
TYPE 50F

Resis. Ohms.	Current m. a.	List Price
1	7070	1.10
2	5000	1.10
3	4080	1.10
4	3535	1.10
5	3160	1.10
10	2235	1.10
25	1415	1.10
50	1000	1.10
75	815	1.10
100	707	1.10
150	575	1.10
200	500	1.10
250	445	1.10
300	408	1.10
400	353	1.10
500	316	1.10
750	258	1.10
800	250	1.10
1,000	224	1.10
1,500	180	1.10
2,000	160	1.10
2,500	141	1.10
3,000	130	1.10
4,000	110	1.10
5,000	100	1.10
6,000	91	1.10
7,500	82	1.25
8,000	79	1.25
10,000	70	1.25
12,000	64	1.25
12,500	56	1.25
15,000	47	1.25
20,000	35	1.25
25,000	28	1.25
30,000	23	1.45
35,000	20	1.45
40,000	18	1.45
45,000	17	1.45
50,000	14	1.45
75,000	9	1.45
100,000	7	1.45
125,000	5	2.00
150,000	4.6	2.25
175,000	4.0	2.25
200,000*	3.5	2.50
225,000*	3.1	2.50
250,000*	2.8	2.70

*Low Temp. Rated 17 w.

100 WATT
6½" x 1⅛"
TYPE 100F

Resis. Ohms.	Current m. a.	List Price
1	10000	1.50
2	7070	1.50
3	5770	1.50
4	5000	1.50
5	4470	1.50
10	3160	1.50
25	2000	1.50
50	1410	1.50
75	1150	1.50
100	1000	1.50
125	895	1.50
150	815	1.50
250	630	1.50
500	447	1.50
750	365	1.50
1,000	316	1.50
1,250	285	1.50
1,500	260	1.50
2,000	225	1.50
2,500	200	1.50
3,000	180	1.50
3,500	170	1.50
4,000	160	1.50
4,500	150	1.50
5,000	141	1.50
7,500	115	1.75
10,000	100	1.75
15,000	80	1.75
20,000	70	1.75
25,000	60	1.75
30,000	50	2.00
35,000	43	2.00
40,000	37	2.00
50,000	30	2.00
60,000	25	2.25
70,000	21	2.25
75,000	20	2.25
100,000	15	2.50

160 WATT
8½" x 1⅛"
TYPE 160F

Resis. Ohms.	Current m. a.	List Price
1	12650	2.65
2	8940	2.40
3	7300	2.25
4	6320	2.15
5	5650	2.00
10	4000	2.00
15	3265	2.00
25	2525	2.00
50	1785	2.00
75	1460	2.00
100	1265	2.00
150	1035	2.00
200	894	2.00
250	800	2.00
500	565	2.00
750	460	2.00
1,000	400	2.00
1,500	326	2.00
2,000	280	2.00
2,500	252	2.00
3,000	230	2.00
3,500	215	2.00
4,000	200	2.00
4,500	185	2.00
5,000	178	2.00
7,500	146	2.00
10,000	126	2.00
15,000	105	2.40
20,000	90	2.40
25,000	80	2.40
30,000	67	2.40
35,000	57	2.40
40,000	50	2.40
50,000	40	2.40
60,000	33	2.70
75,000	26	2.70
80,000	25	2.70
100,000	20	2.70

200 WATT
10½" x 1⅛"
TYPE 200F

Resis. Ohms.	Current m. a.	List Price
1	14140	3.30
2	10000	3.05
3	8162	2.80
4	7070	2.65
5	6325	2.50
10	4470	2.50
25	2825	2.50
50	2000	2.50
75	1630	2.50
100	1414	2.50
150	1150	2.50
250	900	2.50
500	632	2.50
750	515	2.50
1,000	447	2.50
1,500	365	2.50
2,000	315	2.50
2,500	282	2.50
3,000	260	2.50
3,500	240	2.50
4,000	225	2.50
4,500	210	2.50
5,000	200	2.50
7,500	163	2.50
10,000	141	2.50
15,000	115	3.00
20,000	100	3.00
25,000	90	3.00
30,000	82	3.00
35,000	71	3.00
40,000	62	3.00
50,000	50	3.00
60,000	42	3.00
75,000	33	3.00
100,000	25	3.00
125,000	20	3.50
150,000	16	3.50

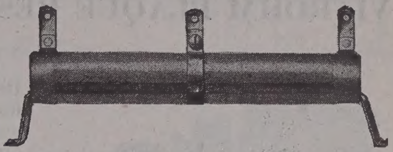
WARD LEONARD
ACCEPTED MEASURE OF QUALITY

RESISTORS
RHEOSTATS
RELAYS

ADJUSTABLE RESISTORS—ADJUSTOHM

One side bare to permit adjustment to desired resistance value.

Order by Type Number and Resistance Value.



Adjustohm Resistors are built of the highest grade low temperature coefficient materials, and are coated with Ward Leonard's tough crazeless Vitreous Enamel.

Mounting brackets are furnished with all Adjustohm Resistors, except the 10-watt size, Type 10A.

Price of resistor includes brackets and one adjustable band.

	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price
10 WATT	1	3160	.60	200	224	.60	2,500	63	.60
1¾″ x 5/16″	2	2235	.60	250	200	.60	3,000	58	.60
TYPE 10A	3	1825	.60	300	182	.60	3,500	53	.60
	5	1415	.60	350	169	.60	4,000	50	.60
	7.5	1155	.60	400	158	.60	4,500	47	.60
	10	1000	.60	500	142	.60	5,000	45	.60
	15	815	.60	600	129	.60	6,000	41	.60
	20	707	.60	750	115	.60	7,000	38	.60
	25	630	.60	800	110	.60	7,500	36	.60
	50	450	.60	1,000	100	.60	8,000	35	.60
	75	365	.60	1,250	80	.60	8,500	34	.60
	100	316	.60	1,500	81	.60	9,000	33	.60
	150	258	.60	2,000	70	.60	10,000	30	.60

	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price
25 WATT	1	5000	.85	50	710	.85	750	182	.85	3,000	90	.85	8,000	50	.95
2″ x 5/8″	2	3535	.85	75	580	.85	800	177	.85	3,500	85	.85	8,500	47	.95
TYPE 25A	3	2890	.85	100	500	.85	850	170	.85	4,000	80	.85	9,000	44	.95
	5	2230	.85	150	410	.85	1,000	158	.85	4,500	74	.85	10,000	40	.95
	7.5	1825	.85	200	354	.85	1,250	140	.85	5,000	70	.85	12,000	33	.95
	10	1580	.85	250	315	.85	1,500	129	.85	6,000	65	.95	15,000	27	.95
	15	1290	.85	300	289	.85	2,000	112	.85	7,000	57	.95	20,000	20	1.10
	20	1115	.85	400	250	.85	2,250	105	.85	7,200	56	.95	25,000	16	1.10
	25	1000	.85	500	224	.85	2,500	100	.85	7,500	53	.95			

	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price
50 WATT	1	7070	1.35	150	575	1.35	1,500	180	1.35	7,000	85	1.50	30,000	33	1.70
4½″ x ¾″	2	5000	1.35	200	500	1.35	2,000	160	1.35	7,200	83	1.50	40,000	25	1.70
TYPE 50A	3	4080	1.35	250	445	1.35	2,250	150	1.35	7,500	82	1.50	50,000	20	1.70
	4	3535	1.35	300	408	1.35	2,500	141	1.35	8,000	79	1.50	60,000	17	2.00
	5	3160	1.35	400	353	1.35	3,000	130	1.35	9,000	75	1.50	75,000	13	2.00
	10	2235	1.35	500	316	1.35	3,500	120	1.35	10,000	71	1.50	80,000	12	2.00
	25	1415	1.35	750	258	1.35	4,000	110	1.35	12,000	64	1.50	100,000	10	2.00
	50	1000	1.35	800	250	1.35	4,500	105	1.35	15,000	58	1.50			
	75	815	1.35	1,000	224	1.35	5,000	100	1.35	20,000	48	1.50			
	100	707	1.35	1,250	200	1.35	6,000	91	1.50	25,000	40	1.50			

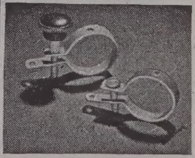
	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price
75 WATT	1	8660	1.75	100	866	1.75	1,500	224	1.75	7,000	103	2.00	35,000	43	2.25
6½″ x ¾″	2	6120	1.75	200	612	1.75	2,000	195	1.75	7,200	102	2.00	40,000	37	2.25
TYPE 75A	3	5000	1.75	250	550	1.75	2,250	183	1.75	7,500	100	2.00	45,000	33	2.25
	4	4330	1.75	300	500	1.75	2,500	173	1.75	8,000	97	2.00	50,000	30	2.25
	5	3870	1.75	400	433	1.75	3,000	158	1.75	9,000	91	2.00	60,000	25	2.50
	10	2740	1.75	500	387	1.75	3,500	146	1.75	10,000	87	2.00	70,000	21	2.50
	15	2235	1.75	750	315	1.75	4,000	137	1.75	15,000	71	2.00	80,000	19	2.50
	25	1730	1.75	800	305	1.75	4,500	129	1.75	20,000	61	2.00	100,000	15	2.50
	50	1220	1.75	1,000	274	1.75	5,000	122	1.75	25,000	55	2.00			
	75	1000	1.75	1,250	245	1.75	6,000	111	2.00	30,000	50	2.25			

	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price
100 WATT	1	10000	2.00	50	1410	2.00	1,000	316	2.00	5,000	141	2.00	30,000	50	2.50
6½″ x 1⅛″	2	7070	2.00	100	1000	2.00	1,500	260	2.00	6,000	130	2.25	40,000	37	2.50
TYPE 100A	3	5770	2.00	200	707	2.00	2,000	225	2.00	7,500	115	2.25	50,000	30	2.50
	4	5000	2.00	250	630	2.00	2,500	200	2.00	10,000	100	2.25	60,000	25	2.75
	5	4470	2.00	400	500	2.00	3,000	180	2.00	15,000	80	2.25	75,000	20	2.75
	10	3160	2.00	500	447	2.00	4,000	160	2.00	20,000	70	2.25	100,000	15	2.75
	25	2000	2.00	750	365	2.00	4,500	150	2.00	25,000	60	2.25			

	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price
160 WATT	1	12650	3.30	100	1265	2.50	3,500	215	2.50	30,000	67	2.90
8½″ z 1⅛″	2	8940	3.05	200	894	2.50	4,000	200	2.50	40,000	50	2.90
TYPE 160A	3	7300	2.80	250	800	2.50	4,500	185	2.50	50,000	40	2.90
	4	6320	2.65	500	565	2.50	5,000	178	2.50	60,000	33	3.25
	5	5650	2.50	1,000	400	2.50	7,500	146	2.50	75,000	26	3.25
	10	4000	2.50	1,500	326	2.50	10,000	126	2.50	80,000	25	3.25
	15	3265	2.50	2,000	280	2.50	15,000	105	2.90	100,000	20	3.25
	25	2525	2.50	2,500	252	2.50	20,000	90	2.90			
	50	1785	2.50	3,000	230	2.50	25,000	80	2.90			

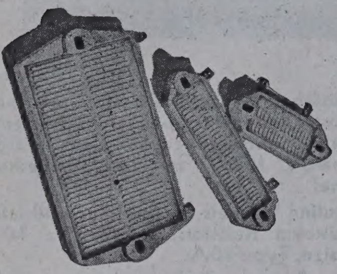
	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price	Resis. Ohms.	Current m. a.	List Price
200 WATT	1	14140	3.85	250	900	3.00	4,500	210	3.00	50,000	50	3.50
10½″ x 1⅛″	2	10000	3.65	500	632	3.00	5,000	200	3.00	60,000	42	3.50
TYPE 200A	3	8160	3.40	1,000	447	3.00	7,500	163	3.00	75,000	33	3.50
	4	7070	3.20	1,500	365	3.00	10,000	141	3.00	100,000	25	3.50
	5	6320	3.00	2,000	315	3.00	15,000	115	3.50	125,000	20	3.75
	10	4470	3.00	2,500	282	3.00	20,000	100	3.50	150,000	16	3.75
	25	2825	3.00	3,000	260	3.00	25,000	90	3.50			
	50	2000	3.00	3,500	240	3.00	30,000	82	3.50			
	100	1414	3.00	4,000	225	3.00	40,000	62	3.50			

EXTRA BANDS



Watts	Screw Driver Type	Bakelite Knob Type
10	.10	...
25	.10	.15
50	.10	.15
75	.15	.25
100	.15	.25
160	.15	.25
200	.15	.25

VITROHM PLAQUE RESISTORS—Non-Inductive—Non-Capacitive



Vitrohm Plaque Resistors are flat in form. The resistance wire is arranged on a rectangular ceramic base to give the lowest obtainable values of inductance and distributed capacitance. Inductance at frequencies up to 1000 kilocycles and distributed capacitance up to 5 megacycles are so low in value that they are negligible.

Vitrohm Plaque Resistors are rated 20, 40, and 125 watts with full ventilation. Since full ventilation is usually impossible to attain, the watt rating should be decreased to compensate for the reduction in ventilation. A single plaque resistor mounted on a panel should operate safely at about 80% of the full watt rating.

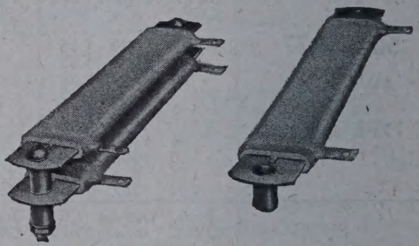
Resis. Ohms	20 WATTS TYPE 20P		40 WATTS TYPE 40P		125 WATTS TYPE 125P	
	Current m. a.	List Price	Current m. a.	List Price	Current m. a.	List Price
0.64	5590	$1.50	7910	$2.00	14000	$3.00
1.00	4470	1.50	6320	2.00	11200	3.00
1.6	3540	1.50	5000	2.00	8800	3.00
2.5	2830	1.50	4000	2.00	7050	3.00
4.0	2240	1.50	3160	2.00	5600	3.00
6.4	1770	1.50	2500	2.00	4400	3.00
10	1415	1.50	2000	2.00	3500	3.00
16	1120	1.50	1580	2.00	2800	3.00
25	895	1.50	1260	2.00	2200	3.00
40	705	1.50	1000	2.00	1770	3.00
50	630	1.50	895	2.00	1580	3.00
64	560	1.50	790	2.00	1400	3.00
100	445	1.50	630	2.00	1120	3.00
160	355	1.50	500	2.00	880	3.00
250	285	1.50	400	2.00	705	3.00
400	225	1.50	315	2.00	560	3.00
640	175	1.50	250	2.00	440	3.00
1,000	140	1.50	200	2.00	350	3.00
1,600	110	1.50	160	2.00	280	3.00
2,500	90	1.50	125	2.00	220	3.00
4,000	70	1.50	100	2.00	177	3.00
5,000	65	1.50	90	2.00	158	3.00
6,400	....	....	80	2.00	140	3.00
10,000	....	....	65	2.00	112	3.00

VITROHM STRIP RESISTORS

Vitrohm Strip Resistors lend themselves readily to applications where space is limited, such as aircraft control circuits, radio instruments, and similar apparatus.

Vitrohm Strip Resistors are built on a strong flat reinforced core that has no sharp angular surfaces, providing a smooth continuous form for the resistance winding. The resistors are vitreous enamel coated.

Each unit is fitted with a self-sustained mounting bracket and spacer, the end pieces being riveted to a metal strip that passes through the core and serves as a conductor for the internal heat generated while the resistor is in service.

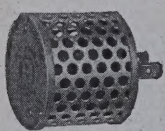


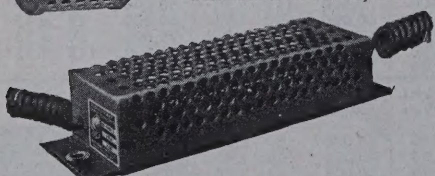
LENGTH (Inches)		RESISTANCE		Watt Rating
Resistor Body	Mounting Holes	Min. Ohms	Max. Ohms	
1¼	2	0.45	6,300	30
2	2¾	0.50	15,800	40
3½	4¼	0.70	35,000	55
4¾	5½	1.00	50,000	65
6	6¾	1.40	66,000	75

Prices furnished on request.

FLUORESCENT LAMP RESISTORS

Prices furnished on request.





Ward Leonard Fluorescent Lamp Resistors are designed for use in fluorescent lamps operating on direct current. They meet the requirements of lamp and fixture manufacturers, and are listed as standard by Underwriters' Laboratories, and by the New York City Department of Water Supply, Gas and Electricity.

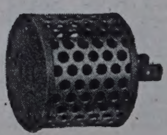
The resistors are made in two styles. One is in a rectangular metal enclosure for installation on standard fixtures; the other is a plug-in type unit for use with portable fixtures. The rectangular unit is made for use on 115-volt, 120-volt, and 240-volt circuits, and in various resistance values to meet the requirements of the lamps with which they are to be used. The plug-in type unit is made for use on 15-watt lamp fixtures and 20-watt lamp fixtures.

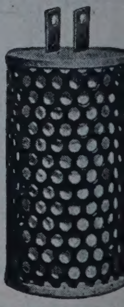
The standard plug-in units are designed to operate on 120-volt circuits, but adaptor units are available for voltages between 105 and 120 volts. The plug-in type unit requires no wiring. It is fitted with a plug on one end for inserting into the line receptacle, and a receptacle on the other end into which the plug on the fixture is placed.

LINE VOLTAGE REDUCERS

These line voltage reducers protect radio sets, soldering irons, Christmas tree lamp strings, and other electrical appliances within the ratings of the reducers, from high line voltage.

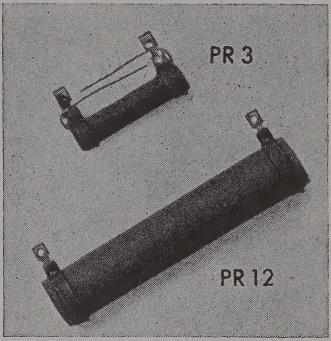
Catalog Number	Length Inches	Resis. Ohms	Load	List Price
507-109	1½	25.	For 35-65 watt 115 volt radio set on 115-140 volts	$1.75
507-109A	1½	10.	For 65-130 watt 115 volt radio set on 115-140 volts	1.75
507-109B	2¼	4.5	For 130-285 watt 115 volt radio set on 115-140 volts	2.10
507-109H	'5¼	300.	For 60 watt 115 volt radio set on 230 volts	2.75





WIRT WIRE WOUND FIXED RESISTORS

WIRE WOUND FIXED RESISTORS



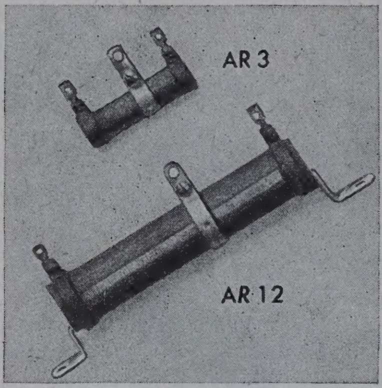
To satisfy the most exacting needs of the Radio and Electronic Industries, Wirt Fixed Wire-wound Resistors are regularly furnished in PHENOCOTE protective coatings, developed and steadily improved over a period of many years in the Wirt Laboratories. The resistor wire is space wound on low loss ceramic tubes. The PHENOCOTE covering is an exclusive organic cement coating offering maximum protection to the resistance winding against the detrimental effects of moisture, humidity and electrolysis. Absolutely inert chemically, it will not effect the most delicate windings. It is particularly recommended for fine wire sizes and all applications where the maximum temperature of the unit will not exceed 300° F. These Resistors are universally used in the Radio, Electronic, Instrument, Public Address and Test Equipment fields.

TABLE OF SPECIFICATIONS OF FIXED RESISTORS

Cat. No.	Sizes Watts	Sizes Phys.	Resistance Limits (Ohms)	List Price (Ea.)	Accessories Terminals	Mounting Brackets	Mounting Centers	Packing
PR 1	5	⅜"x1"	1 to 10000	$0.35	Soldering Lugs & Wire Leads	None	......	10 to a box
PR 3	10	⅜"x1¾"	1 to 25000	.40	Soldering Lugs & Wire Leads	None	......	10 to a box
PR 4	20	½"x2"	5 to 15000	.65	Soldering Lugs & Wire Leads	None	......	10 to a box
			16000 to 50000	.75				
			51000 to 100000	1.00				
PR 12	50	¾"x4"	5 to 5000	1.10	Soldering Lugs	2	5"	Individual
			5100 to 25000	1.25				
			26000 to 100000	1.45				
PR 19	100	1⅛"x6½"	5 to 5000	1.50	Soldering Lugs	2	7"	Individual
			5100 to 25000	1.75				
			26000 to 50000	2.00				
			51000 to 75000	2.25				
			76000 to 100000	2.50				
PR 22	160	1⅛"x8½"	5 to 10000	2.00	Soldering Lugs	2	9"	Individual
			11000 to 50000	2.40				
			51000 to 100000	2.70				
PR 23	200	1⅛"x10½"	5 to 10000	2.50	Soldering Lugs	2	11"	Individual
			11000 to 100000	3.00				

When ordering state: Quantity, Catalogue Number and Resistance Value.

WIRT WIRE WOUND ADJUSTABLE RESISTORS



WIRE WOUND ADJUSTABLE RESISTORS

WIRT Adjustable Resistors are space wound on low loss ceramic tubes to which the resistance wire is bonded, resulting in dependability and long life. Protection of the windings is afforded by the PHENOCOTE covering which is described fully on the preceeding page. One adjustable Slider Band, screw driver type, is furnished as standard. Bakelite knob type bands can be furnished on special order at slightly higher prices as shown below. These bands are made with small contact buttons located on the inside of the band so that a number of taps may be made without shorting out excessive resistance.

TABLE OF SPECIFICATIONS OF ADJUSTABLE RESISTORS

Cat. No.	Sizes		Resistance Limits (Ohms)	List Price (Ea.)	Accessories			Mounting Centers	Packing
	Watts	Phys.			Terminals	Brackets Mounting	Slider Bands		
AR 3	10	⅜"x1¾"	1 to 10000	$0.60	Soldering Lugs	None	1	......	Individual
AR 7	25	¾"x2"	1 to 5000 6000 to 15000 20000 to 25000	.85 .95 1.10	Soldering Lugs	2	1	3"	Individual
AR 12	50	¾"x4"	5 to 5000 7000 to 25000 30000 to 50000 60000 to 100000	1.35 1.50 1.70 2.00	Soldering Lugs	2	1	5"	Individual
AR 15	75	¾"x6"	10 to 5000 7500 to 25000 30000 to 50000 60000 to 100000	1.75 2.00 2.25 2.50	Soldering Lugs	2	1	7"	Individual
AR 19	100	1⅛"x6½"	5 to 10000 15000 to 50000 75000 to 100000	2.00 2.50 2.75	Soldering Lugs	2	1	7"	Individual
AR 22	160	1⅛"x8½"	5 to 10000 15000 to 50000 60000 to 100000	2.50 2.90 3.25	Soldering Lugs	2	1	9"	Individual
AR 23	200	1⅛"x10½"	5 to 10000 15000 to 100000	3.00 3.50	Soldering Lugs	2	1	11"	Individual

Extra Adjustable Slider Bands are obtainable and priced as follows:

Wattage Size	Screw Driver Type		Bakelite Knob Type
10, 25, 50, 75	$0.10	List Price Each	$0.15
100, 160, 200	.15	List Price Each	.25

When ordering state: Quantity, Catalogue Number and Resistance Value.

WIRT MINIATURE RHEOSTATS and POTENTIOMETERS

MINIATURE RHEOSTATS AND POTENTIOMETERS

General: WIRT Metal Housed Rheostats and Potentiometers are rugged and compact affording high quality and dependability in operation. Due to size and construction these controls are moderately priced. Housings are made of tin-plated steel. Highest quality resistance wire is space wound on specially treated laminated phenolic strips. The Phosphor Bronze contact-arm is grounded to the metal casing and all terminals are silver plated. Switches cannot be furnished. These Rheostats and Potentiometers are adaptable to a wide variety of uses in the Radio Instrument, Electronic and Test Equipment fields. The types available are listed below:

Cat. No. WC801—Two Terminal Rheostat, 2 Watt rating. Resistance Range: 5 ohms to 10,000 ohms with linear winding and standard tolerance of ±15%. Diameter is 1⅛″ and thickness ½″. Shaft is Cadmium plated steel, grounded to housing. 5/32″ from end of bushing and slotted for screw driver adjustment. Brass mounting bushings, ⅜″-32 x ¼″ long are standard. Each control is equipped with one 9/16″ hex mounting nut. **List Price**.. **$0.75 Each**

Cat. No. WC802—Three Terminal Potentiometer. 2 Watt rating. Resistance Range: 5 ohms to 10,000 ohms with linear winding and standard tolerance ±15%. All other specifications are the same as those listed under the WC801 control shown above. **List Price**.. **$1.00 Each**

Cat. No. WC803—Sensitivity Control, 2 Watt rating. Resistance Range: 5 ohms to 12,000 ohms with linear winding and standard tolerance of ±15%. Diameter is 1⅛″ and thickness is ½″. A slot is provided in the Rotor mechanism allowing for screw driver adjustment from front only. **List Price**.......................... **$0.40 Each**

Cat. No. WC804—Sensitivity Control. Identical with WC803 Control, except provided with an opening in back of control to permit screw driver adjustment from either front or back. **List Price** .... **$0.45 Each**

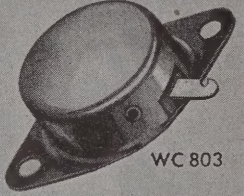
Cat. No. WC807—Miniature Sensitivity Control, 1.5 Watt rating. Resistance Range: 5 ohms to 3000 ohms with uniform winding and standard tolerance of ±15%. A slot is provided in the Rotor mechanism allowing for screw driver adjustment from either front or back. **List Price**.. **$0.40 Each**

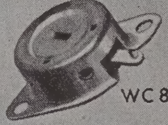
Cat. No. WCB507—Insulating Bushing for ⅜″ Brass bushing and used with Cat. Nos. WC801 and WC802 Controls. **List Price**.................................... **$0.075 Each**

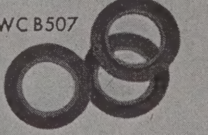
Cat. No. WCW508—Insulating Washer for ⅜″ Brass bushing and used with Cat. Nos. WC801 and WC802 Controls. **List Price**.................................... **$0.06 Each**

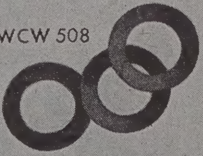
WC 801

WC 802

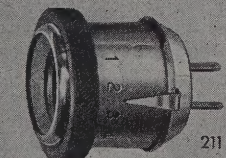

WC 803

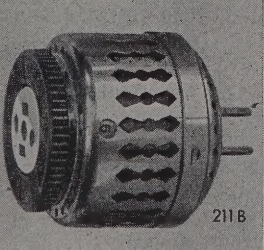

WC 807


WC B507


WCW 508

VARIABLE VOLTAGE REGULATOR


211


211 B

Cat. No. 211 — Variable Voltage Regulator is wound with high quality alloy wire on an insulated metal core with the winding encased in Di-El-Ite. It can be used as a Radio Voltage Regulator where the Receiver draws not more than 65 watts. For industrial use it can be wound up to 600 ohms maximum and will dissipate up to 8 watts. It is adjustable to 5 positions. **List Price** .... **$2.45 Each**

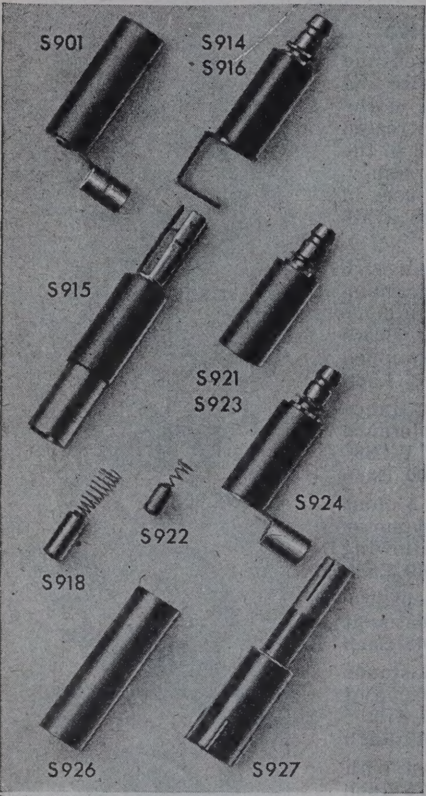
Cat. No. 211-B—Regulator has air-cooling features which promote rapid heat dissipation. When used as a Radio Voltage Regulator the Receiver must not draw more than 150 watts. In industrial use for control of voltage and to regulate speed or heat it can be wound with a maximum resistance of 300 ohms and can dissipate up to 20 watts with maximum resistance setting. It is adjustable to 8 positions. **List**...... **$4.00 Each**

UTILITY CABINET

UC

Cat. No. UC—Utility Cabinet is constructed of bass wood with corners dadoed and glued for strength; varnished and rubbed to give a beautiful finish. It has six drawers, each one having three removable partitions. The upper five drawers are 1″ deep and the lower one is 1½″ deep. Overall dimensions of the cabinet are 7″ wide by 5⅝″ deep by 9″ high. Drawer guides, bottom and partitions are made of three ply laminated wood to prevent warping. Knobs are of wood and securely fastened. It is ideal for the storage of such parts as resistors, condensers, bolts, nuts, washers, small tools, etc. **List**.......... **$8.00 Each**

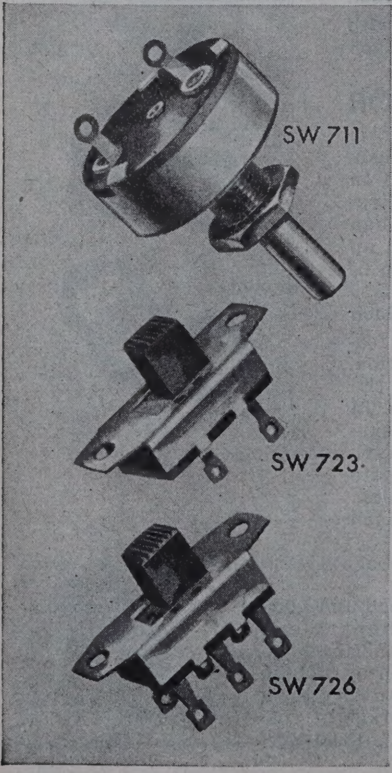
WIRT SUPPRESSORS and SWITCHES



AUTO RADIO IGNITION SUPPRESSORS

Wirt Suppressors are made with moulded black bakelite housings. All metal parts are made of rugged unfinished brass. Terminals are securely fastened to casings and sealed with special moisture and heat resisting dielectric cement. Resistor pills are sprayed with zinc and then double impregnated with a special moisture-proofing compound. Resistance value of all standard types is 10000 ohms ±20%; for FV8 types 50000 ohms ±20%. The distributed capacity is less than 1.5 mmf. Resistance values will not change more than 7% after being submerged in water for 100 hours. Test by sparking 1800 times per minute at 10,000 volts for 100 hours produces resistance change of not more than 3%. Wirt Suppressors are impervious to heat, oil, moisture and mild acids, and will not change in resistance more than 10% in 50,000 miles of operation.

Cat. No.	Type	List Price
S901	Elbow—Screw Fitting	$0.30 Each
S914	Bracket—Standard	.30 Each
S916	Bracket—For FV-8	.30 Each
S915	Distributor—Slip Fitting	.40 Each
S918	FV-8 Brush—Years 1933-34-35	.30 Each
S922	FV-8 Brush—Years 1936 to 1940	.30 Each
S921	Universal Screw—Standard	.30 Each
S923	Universal Screw—For FV-8	.30 Each
S924	Snap-on Plug	.30 Each
S926	Cable—Screw Fitting	.30 Each
S927	Distributor—Screw Fitting	.30 Each



WIRT ROTARY AND SLIDE SWITCHES

Rotary Switches

General: Wirt Rotary Switches are of the quick break type, have positive contact, are rugged and neat in appearance. They are constructed with tin plated steel housings. The outside diameter of the switch is 1⅛" and thickness ½". Standard bushings are of brass, ⅜"-32 x ⅜" long. Steel shafts are ⅝" from end of bushing, and made with a flat. Wiping contacts and terminals are silver plated. Terminals are securely fastened in place. Activating spring is positive in action. One 9/16" hex. nut is furnished. These switches are successfully used in conjunction with Radio, Phonograph, Signal and Instrument Circuits.

Cat. No.	Type	List Price
SW711	SPST Rotary Switch, 3A-125V-AC-DC 2 Terminals	$0.40 Each
SW711A	SPDT Rotary Switch, 3A-125V-AC-DC 3 Terminals	.45 Each

Slide Switches

General: All Wirt Slide Switches are compact and sturdy. Housings are made of steel and are cadmium plated. The physical dimensions of the switches have been standardized, width 35/64", length 1-13/32" and mounting centers 1⅛". Standard buttons are of black bakelite. All contacts and terminals are silver plated. Switches SW723 and SW725 are supplied with a dot which indicates the "On" position. These switches are used in the Radio, Signal, Phonograph and Instrument industries.

Cat. No.	Type	List Price
SW723	SPST Slide Switch, .75A-125V-AC-DC, 2 Terminals	$0.25 Each
SW724	SPDT Slide Switch, .75A-125V-AC-DC, 3 Terminals	.30 Each
SW725	DPST Slide Switch, .50A-125V-AC-DC, 4 Terminals	.35 Each
SW726	DPDT Slide Switch, .50A-125V-AC-DC, 6 Terminals	.45 Each

AUTOMATIC AMPERITE REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

AUTOMATIC
REGULATOR
AMPERITE
BALLAST RESIST
FOR AUTOMATIC R
ULATION OF CURRE
AND VOLTAGE

110 Volts—A.C. Sets

AMPERITE IS A REAL REGULATOR—Its resistance automatically varies to compensate for supply voltage variations. It should not be confused with ordinary resistors.

For 110-V. A.C. Sets—The proper Amperite is determined by the line current. A set drawing 0.7A requires Amperite 7A5, 1.2A requires Amperite 12A5, etc. Depending upon the line voltage, the voltage drop across an Amperite of — A5 series will vary from 8 to 30 volts and will control line voltages of 100 to 140 volts.

The line current drain of most 110 Volt A.C. Sets — except those using 6L6 or '50 tubes—average approximately 0.1 amp. per tube. A 7-tube set will draw 0.7A—use Amperite 7A5, etc. 220 Volt A.C. sets have half the current drain of similar 110 A.C. sets. For proper Amperite see Chart at left.

HOW TO DETERMINE PROPER AMPERITE FOR A.C. SETS

Line Voltage	110 V	220 V
No. of Tubes in Set	Use Amperite No.	Use Amperite No.
4 or 5	5-A-5	2H-5
6 or 7	7-A-5	3H-5
8, 9 or 10	9-A-5	4H-5
11 or 12	11-A-5	5H-5

A. C. - D. C. SETS

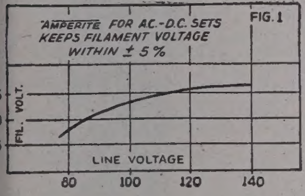


FIG. 1

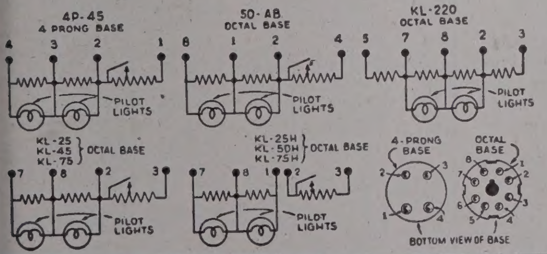
For A.C.-D.C. Sets

The Amperite Regulators are designed to pass only 0.3A through tube filaments. Filament voltages will be kept within ± 5% with line voltage variations of 85 to 140 volts. Due to the fact that Amperite is a real regulator, 2 types of Amperite with four prongs and 2 with octal bases will replace 150—90% of all—o-called ballasts or resistors used in AC.-D.C. sets. No extra resistor equired.

'ilot Lights—None, one or two of either 0.150A or 0.250A can be used ith same Amperite. Should a pilot light burn out, the set will continue o operate properly without any damage to the Amperite, tubes or ther parts. The patented starting resistor in the Amperite preventf verloading and premature burning-out of tubes and pilot lights.

n some sets the ballast socket is purposely wired in such a way that he Pilot Light Resistors of standard ballasts would be burned out is nserted. In such sets special Amperites are required, as shown in table. void burnouts—use proper Amperite.

BASE WIRING OF AMPERITES FOR A.C.-D.C. SETS



AMPERITES
FOR 2-VOLT BATTERY SETS

wo-volt tube filaments are delicate and easily overloaded. Keeping the ibe filaments at their proper voltage with a real regulator like Amperite variably results in considerably more battery and tube life. The same mperite can be used for dry cell, air cell, or 2 volt storage battery operation. he proper Amperite is determined by the total filament-current drain of e set. e.g.—for 0.5A use Amperite 5E1, etc.

REPLACEMENT REGULATORS—A.C.-D.C. SETS. List $1.00

Amperite No.	Amperite Numbers Shown Replace All A.C.-D.C. Ballasts		
	Starting With Letter	With Numbers From	Ending In
KL.25 # **KL.45** **KL.75**	K, L, M or BK BL or BM	10 to 36 36 " 67 67 " 105	A, B, C, or D " "
KL.25H **KL.50H** **KL.75H**	K, L, M, or BK " "	11 to 26 36 " 67 67 " 105	F, G, or H " "
KL.50S1 **KL.50S2** **KL.50S3**	K or L " "	40 to 100 " "	S1 S2 S3
KL.50E	"	36 " 67	E

Except K18B, use Amperite K18B—4Prong Base.

For	*	Use Amperite
.0C2	a	R300
.03G	a	.03G
.038	r	11-20
.042	b	5E1
1-1	r	1-1
1A1	b	5E1
1A2	b	30
1A5	c	1A5
1B1	b	3H1
1B2	b	31
1C1	b	7H1
1C2	b	52
1D1	b	2H-1
1D2	b	1D2
1E1	b	5E1
1E2	b	1E2
1F1	b	7-1
1G1	b	4-1
1H-1	b	1H-1
1H-5	c	1H-5
1J1	b	6-1
1K1	b	5H-1
1L1	b	1L1
1N1	b	1N1
1P1	b	1P1
1Q1	b	1Q1
1R1	b	1R1
1S1	b	1S1
1T1	b	1T1
1U1	b	1U1
1V1	b	5H-1
1W1	b	1W1
1Y1	b	
1Z1	b	9-1
2	a	2
2-1	b	2-1
2A5	c	2A5
2-10	r	2-10
2-20	r	2-20
2CR-241	a	KL-45
2LR-212	a	50AB
2M2	s	2M2
2UR-215	a	KL-45
2UR-224	a	KL-45
2H-1	b	1D1
2H-2E	b	2H-2E
2H-5	c	2H-5
2H-10	r	2H-10
2H-20	r	2H-20
3	a	4P45
3-1	b	3-1
3A5	c	3A5
3-10	r	3-10
3-20	r	3-20
3-25	a	3-25
3-40	a	3-40
3-150	c	3-150
3-220	h	3-220
3CR-241	a	KL-45
3ER-248	a	KL-45J
3ER-249	h	3ER-249
3H-1	b	1B1
3H-2E	b	3H-2E
3H-5	c	3H-5
3H-10	r	3H-10
3H-20	r	3H-20
3H-150	c	3H-150
3H-220	c	3H-220
3MR-253	a	3MR-253

For	*	Use Amperite
3MZ-419	a	3MZ-419
3MZ419A	a	3MZ419A
4	a	4
4-1	b	1G1
4A5	c	4A5
4-10	r	4-10
4-20	r	4-20
4-150	c	4-150
4-220	c	4-220
4H-1	b	4H-1
4H-5	c	4H-5
4H-10	r	4H-10
4H-20	r	4H-20
4H-150	c	4H-150
4H-220	c	4H-220
4SR311	a	4SR311
4-TU-9	a	KL-45
5	a	5
5B	a	3-40
5-1	b	5E1
5A5	c	5A5
5-10	r	5-10
5-16	c	5-16
5-20	r	5-20
5-150	c	5-150
5-220	c	5-220
5E1	b	5E1
5H-1	b	5H-1
5H-3	s	5H-3
5H-5	c	5H-5
5H-10	r	5H-10
5H-20	r	5H-20
5H-150	c	5H-150
5H-220	c	5H-220
6	r	1F1
6-1	r	1J1
6A5	c	6A5
6-10	r	6-10
6-20	c	6-20
6-150	c	6-150
6-220	c	6-220
6AA	b	5E1
6B	a	4P45
6.125	a	KL-45J
6.126	a	KL-45J
6-128	a	KL-45J
6-129	a	KL-45J
6-130	a	6-130
6-133	a	KL-45J
6-134	a	
6-135	a	KL-45J
7	a	7
7-1	b	1F1
7A5	c	7A5
7-10	r	7-10
7-20	r	7-20
7-150	c	7-150
7-220	c	7-220
8	a	4P45
8-1	b	8-1
8A5	c	8A5
8-10	r	8-10
8-20	r	8-20
8-150	c	8-150
8-220	c	8-220

For	*	Use Amperite
9	a	4P45
9-1	b	1Z1
9A5	c	9A5
9-10	r	9-10
9-20	r	9-20
9-150	c	9-150
9-220	c	9-220
9V10	c	8A5
10-1	b	10-1
10A5	c	10A5
10AB	b	5H-1
10-10	r	10-10
10V10	c	10V10
10-20	r	10-20
10-23A	a	KL-25
10-25	r	10-25
10-150	c	10-150
10-220	c	10-220
10-610	a	10-610
10-500		
10-800		
11A5	c	11A5
11-10	r	11—10
11-20	r	11-20
11-150	c	11-150
11-220	c	11-220
12A5	c	12A5
12-10	r	12-10
12-20	r	12-20
12-150	c	12-150
12-220	c	12-220
13A5	c	13A5
13-10	r	13-10
13-20	r	13-20
14A5	c	14A5
14-10	r	14-10
14-20	r	14-20
15A5	c	15A5
15-10	r	15-10
15-20	r	15-20
16A5	c	16A5
17-2	s	17-2
17A5	c	17A5
18		
18-10	r	18-10
19A5	c	19A5
20-1	s	20-1
20A5	c	20A5
20-10	r	20-10
22-10	r	22-10
23-55A	a	KL-45
23-55F	a	KL-50H
23-3	s	23-3
24-4	s	24-4
30	b	1A2
30A	a	3-25
31	b	1B2
32	a	KL-50H

For	*	Use Amperite
33AG	a	KL-25
33-310		
3,6D5	a	3,6D5
36A	a	KL-25
40	a	3-40
40W	a	3-40
40A2	a	4P45
40B2	a	4P45
40X300	a	4P45
42A	a	3-40
42A1	a	50AB
42A2	a	50AB
42B2	a	50AB
42HA	a	
45W	a	4P45
46A1	a	46A1
46B1	a	46B1
49A	a	4P45
49A1	a	50AB
49A2	a	50AB
49B2	a	50AB
50MG	a	KL50S1
50W	a	4P45
50A2	a	4P45
50A2MG	a	KL50S2
50B2	a	4P45
50B2MG	a	KL50S1
50X3	a	4P45
50X3T	a	4P45
50X300	a	4P45
52	b	1C2
55A	a	KL45
55H	a	KL50H
55LB	a	L55B
55KB	a	KL-45
60-92A	a	KL-75
60R30	a	60R30G
60R30G	a	60R30G
64.23		
67A	a	KL45
69-2027	a	3-40
69-2028	h	3-220
69-2033	a	KL-45
66-2037	a	KL-45
70	r	70
75	a	KL-75
80	a	4P45
80R	a	80R
85L75CC	h	85L75CC
90	r	90
92A	a	4P45
95K2	a	KL-45
98	r	9-20
100	r	9-20
100.R8	a	4P45
100-33	a	
100-37	a	KL-45J
100-38	a	KL-45J
100-46	a	100-46
100-47	a	100-47

(Continued on other side)

The proper AMPERITE Replacement may be determined by looking up the number under column "FOR" and noting corresponding Amperite in the column "USE AMPERITE". Numbers in "FOR" column run consecutively and then alphabetically.

★The letter code in the center column is interpreted as follows

	List Price
a—For 110V. A.C.-D.C. Sets	**$1.00**
b—For 2V. Battery Sets	**1.25**
c—For 110V. A.C. Sets	**2.25**
h—For 220V. A.C.-D.C.Sets	**2.25**
r—For 110V. A.C. Sets having 70-95V. Primary	**1.25**
s—For special apparatus.	

For	*	Use Amperite
100-48	h	3ER249
100-49	h	3ER-249
100-52	b	1D2
100-53	b	1E2
100-55	a	100-55
100-56	a	100-56
100-57	h	3ER-249
100-58	h	3ER-249
100-59	h	3ER-249
100-60	h	3ER-249
100-61	a	100-61
100-62	a	100-62
100-63	a	100-63
100-64	h	3ER-249
100-65	h	3ER-249
100-66	h	3ER-249
100-70	a	KL-45J
100-71	a	KL-45J
100-76	a	100-76
100-77	a	100-77
100-79	a	100-79
100-81	a	100-81
101	r	9-20
105	r	9-20
110	r	11-20
115-14	a	KL-75
115-17	a	115-17
115-1S	a	115-17
115-18	a	115-18
115-19	a	115-19
115-20	a	115-20
115-22	a	KL-45
115-24	a	115-24
115-25	a	115-25
115-26	a	115-26
115-27	a	115-27
115-28	a	KL-45
115-40	a	KL-45
115-41	a	KL-45
115-42	a	KL-25
115-42A	a	115-42A
115-43	h	3ER-249
115-44	h	3ER-249
115-46	a	115-46
115-47	a	
115-49	a	115-49
115-53	a	KL-45
118	c	11A5
120R8	a	4P45
125	c	10A5
126	r	12-20
130R	c	11A5
130R	a	4P45
130R8	a	4P45
130-35		
135K1	a	KL-45
135K1A	a	KL-45
135T380		
140	a	4P45
140R4	a	4P45
140R8	a	4P45
140L4	a	4P45
140L44	a	4P45
140M4	a	4P45
140M8	a	4P45
140KB	a	4P45
140KC	a	4P45
145A	a	145A
150	c	15A5
155	c	
158	r	18-10
160-32	a	KL-45
160-36	a	L55B
160-37	a	160-37
160-40	a	KL-45
160-41	a	
160-42	a	
160-43	a	
160KB	a	4P45
160R4	a	4P45
164	c	7A5
165A	a	4P45
165KB	a	4P45

For	*	Use Amperite
165KC	a	4P45
165LB	a	4P45
165LC	a	4P45
165L4	a	4P45
165L8	a	4P45
165L44	a	4P45
165M4	a	4P45
165M8	a	4P45
165R	a	4P45
165R4	a	165R4
165R8	a	4P45
165R44	a	4P45
169	c	10A5
185A	a	4P45
185KB	a	4P45
185KC	a	4P45
185L4	a	4P45
185L8	a	4P45
185L44	a	4P45
185LB	a	4P45
185LC	a	4P45
185M4	a	4P45
185M8	a	4P45
185R	a	4P45
185R4	a	4P45
185R8	a	4P45
185R44	a	4P45
192A	a	MT650
200R	a	200R
200R4	a	4P45
200R8	a	4P45
203	c	12A5
216	c	11A5
218	r	18-10
245A	a	4P45
245KB	a	4P45
245KC	a	4P45
250A	a	4P45
250KB	a	4P45
250KC	a	4P45
250L4	a	4P45
250L8	a	4P45
250M4	a	4P45
250M8	a	4P45
250R	a	250R
250R4	a	4P45
250R8	a	4P45
250T		
260		
270L4	a	4P45
270L8	a	4P45
270M4	a	4P45
270M8	a	4P45
270R4	a	4P45
270R8	a	4P45
275		
300R	a	4P45
300R4	a	4P45
313	r	13-20
314	r	14-20
315	r	15-20
320R	a	4P45
320R4	a	320R4
380	c	380
400R	a	400R
410		
415	r	11-20
424-90	r	6-20
425	r	13-20
439	r	3H-20
444-90	r	3-20
449	r	14-20
454	r	5-20
460	r	13-20
464-90	r	8-20
464-200	r	3H-20
484-90	r	16-20
484-200	r	7-20
495K1	a	495K1
538	r	9-20
610-10	a	10-610
808-1	a	808-5
808-2	a	808-2

For	*	Use Amperite
808-4	a	808-4
808-5	a	808-5
838	r	9-20
874		
874-R48	a	874-R48
878R48	a	878R48
1916		
2342	a	KL45J
2342-1		
2917		
2918		
2919		
3271		
3313	a	3271
3334	a	KL-45
3326	a	KL-45
3334A	a	KL-45
3614	a	KL-45
5459	a	KL-45
8593	a	5459
8595	a	KL-45
8598	a	KL-45
8600	a	L55B
8601	a	KL-25
8663	a	KL-50E
8664		
8717	a	KL-50E
8850		
81963	a	81963
81966	a	KL-45
81973	a	81973
84152	a	84152
86892-9	a	86892-9
26871	a	26871
3500	a	3500
84428	a	84428
107042	b	5E1
BBR	a	BBR
BK42D	a	KL-45
BK49B	a	BK49B
BK49D	a	KL-45
BK55B	a	KL-45
BK55D	a	KL-45
Bkv51dj	a	Bkv51dj
BL42B	a	KL-45
BL42C	a	KL-45
BL42D	a	KL-45
BL49B	a	KL-45
BL49D	a	KL-45
BL55B.	a	KL-45
BL55D	a	KL-45
BM42B	a	KL-45
BM42D	a	KL-45
BM49B	a	KL-45
BM49D	a	KL-45
BM55B	a	KL-45
BM55D	a	KL-45
C-9266	a	C-9266
D30	a	D-35
D35	a	D35
D140	a	200R
D150	a	200R
D200	a	200R
D740	a	D740
D4851A		
D5468		
E157	a	E-157
FL-55C	a	FL-55C
FM-370		
H553	a	KL-45
K11A	a	KL-25
K11B	a	KL-25
K11B2	a	25B2
K11D	a	KL-25
K11E	a	KL-25E
K11E1	a	KL-25E
K11F	a	KL-25H
K11G	a	KL-25H

For	*	Use Amperite
K11H	a	KL-25H
K11J	a	KL-25J
K17AJ	a	K17AJ
K17BJ	a	K17BJ
K17E	a	KL25E
K17R	a	K17R
K18A	a	KL25
K18B	a	K18B
K18B2	a	25B2
K18C	a	KL-25
K18D	a	KL-25
K18E	a	KL-25E
K18E1	a	KL-25E
K18F	a	KL-25H
K18G	a	KL-25H
K18H	a	KL-25H
K18J	a	KL-25J
K22A	a	KL-25
K22B	a	KL-25
K22B2	a	K22B2
K22C	a	KL-25
K22D	a	KL-25
K22E	a	KL-25E
K22E1	a	KL-25E
K22F	a	KL-25H
K22G	a	KL-25H
K22H	a	KL-25H
K22J	a	KL-25J
K23E	a	KL-25E
K23AJ	a	KL-45J
K23C	a	KL-25
K26J218	a	K26J218
K30B	a	KL-25
K30B2	a	25B2
K30C	a	KL-25
K30D	a	KL-25
K30E	a	KL-25E
K30E1	a	KL-25E
K30F	a	KL-25H
K30G	a	KL-25H
K30H	a	KL-25H
K30J	a	KL-25J
K36A	a	KL-45
K36B	a	KL-45
K36B2	a	50AB
K36C	a	KL-45
K36D	a	KL-45
K36E	a	KL-50E
K36E1	a	KL-50E
K36F	a	KL-50H
K36G	a	KL-50H
K36H	a	KL-50H
K36J	a	KL-50J
K38B2	a	K38B2
K40B	a	KL-45
K40X	a	4P45
K40Y	a	4P45
K42A	a	KL-45
K42B	a	KL-45
K42B2	a	50AB
K42B-K4	a	K42B-K4
K42C	a	KL-45
K42D	a	KL-45
K42E	a	KL-50E
K42E1	a	KL-50E
K42F	a	KL-50H
K42G	a	KL-50H
K42H	a	KL-50H
K42J	a	KL-50J
K42CG	a	4P45
K43B-2	a	KL-45
K49A	a	KL-45
K49B	a	KL-45
K49B2	a	50AB
K49C	a	KL-45
K49D	a	KL-45
K49D-10	a	KL-45
K49E	a	KL-50E
K49E1	a	KL-50E
K49F	a	KL-50H
K49G	a	KL-50H
K49H	a	KL-50H
K49J	a	KL-50J
K49CG	a	4P45
K49X	a	4P45
K49Y	a	4P45
K49S1	a	KL50S1
K49S2	a	KL-50S2
K49S3	a	KL-50S3
K52H	a	KL-50H
K55A	a	KL-45
K55B	a	L-55B
K55B2	a	50AB
K55C	a	KL-45
K55CP	a	K55CP
K55CPR	a	K55CP
K55D	a	KL-45
K55E	a	KL-50E
K55E1	a	KL-50E
K55F...	a	KL-50H
K55G	a	KL-50H
K55H	a	KL-50H

For	*	Use Amperite
K55J	a	KL-50J
K55S1	a	KL-50S1
K55S2	a	KL-50S2
K55S3	a	KL-50S3
K67A	a	KL-45
K67B	a	KL-45
K67B2	a	50AB
K67C	a	KL-45
K67D	a	KL-45
K67E	a	KL-50E
K67E1	a	KL-50E
K67F	a	KL-50H
K67G	a	KL-50H
K67H	a	KL-50H
K67J	a	KL-50J
K67S1	a	KL-50S1
K67S2	a	KL-50S2
K67S3	a	KL-50S3
K72B	a	KL-75
K74A	a	KL-45
K74B	a	KL-45
K74B2	a	50AB
K74C	a	KL-45
K74D	a	KL-45
K74E	a	KL-50E
K74E1	a	KL-50E
K74F	a	KL-50H
K74G	a	KL-50H
K74H	a	KL-50H
K74J	a	KL-50J
K74S1	a	KL-50S1
K74S2	a	KL-50S2
K74S3	a	KL-50S3
K75B	a	KL-75
K78B	a	KL-75
K79B	a	KL-75
K80A	a	KL-75
K80B	a	KL-75
K80B2	a	50AB
K80C	a	KL-75
K80D	a	KL-75
K80E	a	KL-50E
K80E1	a	KL-50E
K80F	a	KL-75H
K80G	a	KL-75H
K80H	a	KL-75H
K80J	a	KL-75J
K80S1	a	KL-50S1
K80S2	a	KL-50S2
K80S3	a	KL-50S3
K83747-6	a	K83747-6
K87A	a	KL-75
K87B	a	KL-75
K87B2	a	75B2
K87C	a	KL-75
K87D	a	KL-75
K87E	a	KL-75E
K87E1	a	KL-75E
K87F	a	KL-75H
K87G	a	KL-75H
K87H	a	KL-75H
K87J	a	KL-75J
K87S1	a	KL-75S1
K87S2	a	KL-75S2
K87S3	a	KL-75S3
K90B	a	KL-75
K90F	a	KL-75H
K92A	a	KL-75
K92B	a	KL-75
K92B2	a	75B2
K92C	a	KL-75
K92D	a	KL-75
K92E	a	KL-75E
K92E1	a	KL-75E
K92F	a	KL-75H
K92G	a	KL-75H
K92H	a	KL-75H
K92J	a	KL-75J
K92S1	a	KL-75S1
K92S2	a	KL-75S2
K92S3	a	KL-75S3
K95B	a	KL-75
K99A	a	KL-75
K99B	a	KL-75
K99B2	a	75B2
K99C	a	KL-75
K99D	a	KL-75
K99E	a	KL-75E
K99E1	a	KL-75E
K99F	a	KL-50H
K99G	a	KL-50H
K99H	a	KL-75H
K99J	a	KL-75J
K99S1	a	KL-75S1
K99S2	a	KL-75S2
K99S3	a	KL-75S3
K1336	a	KL-45
K150A	a	K150A
KX23B	a	60R30G
KX23R	a	878R48

For	*	Use Amperite
KX42A	a	4P45
KX42B	a	4P45
KX42C	a	4P45
KX46A	a	4P45
KX49C	a	4P45
KX55A	a	4P45
KX55B	a	4P45
KX55C	a	4P45
KX55D	a	4P45
KX74A	a	4P45
KX74B	a	4P45
KX74C	a	4P45
KY42A	a	50AB
KY42B	a	50AB
KY42C	a	50AB
KY55A	a	50AB
KY55B	a	50AB
KY55C	a	50AB
KZ49A	a	KL-50S1
KZ49B	a	KL-50S1
KZ49C	a	KL-50S2
L11A	a	KL-25
L11B	a	KL-25
L11B2	a	25B2
L11C	a	KL-25
L11D	a	KL-25
L11E	a	KL-25E
L11E1	a	KL-25E
L11F	a	KL-25H
L11G	a	KL-25H
L11H	a	KL-25H
L11J	a	KL-25J
L18A	a	KL-25
L18B	a	KL-25
L18B2	a	25B2
L18C	a	KL-25
L18D	a	KL-25
L18E	a	KL-25E
L18E1	a	KL-25E
L18F	a	KL-25H
L18G	a	KL-25H
L18H	a	KL-25H
L18J	a	KL-25J
L22A	a	KL-25
L22B	a	KL-25
L22B2	a	25B2
L22C	a	KL-25
L22D	a	KL-25
L22E	a	KL-25E
L22E1	a	KL-25E
L22F	a	KL-25H
L22G	a	KL-25H
L22H	a	KL-25H
L22J	a	KL-25J
L26CC	a	KL-25
L26CC-159	h	L26CC-159
L30A	a	KL-25
L30B	a	KL-25
L30B2	a	25B2
L30C	a	KL-25
L30CC	a	L30CC
L30D	a	KL-25
L30E	a	KL-50E
L30E1	a	KL-50E
L30F	a	KL-25H
L30G	a	KL-25H
L30H	a	KL-25H
L30J	a	KL-25J
L36A	a	KL-25
L36B	a	KL-45
L36BG	a	4P45
L36B2	a	50AB
L36C	a	KL-45
L46D	a	KL-45
L36E	a	KL-50E
L36E1	a	KL-50E
L36F	a	KL-50H
L36G	a	KL-50H
L36H	a	KL-50H
L36J	a	KL-50J
L36DJ	a	KL-45J
L40D	a	KL-45
L40E	a	KL-50E
L40S1	a	KL-50S1
L40S2	a	KL-50S2
L40S3	a	KL-50S3
L42A	a	KL-45
L42B	a	KL-45
L42BG	a	4P-45
L42B2	a	50AB
L42BX	a	L42BX
L42SX	a	220SX
L42C	a	KL-45
L42CJ	a	KL-45J
L42CS4	a	L42CS4
L42D	a	KL-45
L42DX	a	L42BX
L42DSX	h	220SX

For	*	Use Amperite
L42DJ	a	KL-45J
L42E	a	KL-50E
L42E1	a	KL-50E
L42F	a	KL-50H
L42G	a	KL-50H
L42H	a	KL-50H
L42J	a	KL-50J
L42S1	a	KL-50S1
L42S2	a	KL-50S2
L42S3	a	KL-50S3
L49A	a	KL-45
L49B	a	KL-45
L49B2	a	50AB
L49BJ	a	L49BJ
L49BX	a	L49BX
L49BSX	h	220SX
L49C	a	KL-45
L49CJ	a	KL-45J
L49D	a	KL-45
L49DJ	a	KL-45J
L49DX	a	L49BX
L49DSX	h	220SX
L49E	a	KL-50E
L49.55E	a	KL-50E
L49E1	a	KL-50E
L49G	a	KL-50H
L49H	a	KL-50H
L49J	a	KL-50J
L49S1	a	KL-50S1
L49S2	a	KL-50S2
L49S3	a	KL-50S3
L55A	a	KL-45
L55B	a	L55B
L55B2	a	50AB
L55C	a	KL-45
L555.5C	a	KL-45
L55CP	a	K55CP
L55CPR	a	K55CP
L55D	a	KL-45
L55E	a	KL-50E
L55E1	a	KL-50E
L55F	a	KL-50H
L55G	a	KL-50H
L55H	a	KL-50H
L55J	a	KL-50J
L55S1	a	KL-50S1
L55S2	a	KL-50S2
L55S3	a	KL-50S3
L66B	a	KL-45
L67A	a	KL-45
L67B	a	KL-45
L67B2	a	50AB
L67C	a	KL-45
L67D	a	KL-45
L67E	a	KL-50E
L67E1	a	KL-50E
L67F	a	KL-50H
L67G	a	KL-50H
L67H	a	KL-50H
L67J	a	KL-50J
L67S1	a	KL-50S1
L67S2	a	KL-50S2
L67S3	a	KL-50S3
L74A	a	KL-45
L74B	a	KL-75
L74B2	a	50AB
L74C	a	KL-75
L74D	a	KL-75
L74E	a	KL-50E
L74F	a	KL-75H
L74G	a	KL-75H
L74H	a	KL-75H
L74J	a	KL-75J
L74S1	a	KL-50S1
L74S2	a	KL-50S2
L74S3	a	KL-50S3
L75CC	a	KL-45
L150B	h	L150B
L159B	h	L159B
L80A	a	KL-75
L80B	a	KL-75
L80B2	a	72B2
L80C	a	KL-75
L80D	a	KL-75
L80E	a	KL-50E
L80F	a	KL-75H
L80G	a	KL-75H
L80H	a	KL-75H
L80J	a	KL-75J
L80S1	a	KL-50S1
L80S2	a	KL-50S2
L80S3	a	KL-50S3
L85CC	a	KL-75
L87A	a	KL-75
L87B	a	KL-75
L87C	a	KL-75
L87D	a	KL-75
L87E	a	KL-50E
L87F	a	KL-75H
L87G	a	KL-75H
L87H	a	KL-75H

For	*	Use Amperit
L87J	a	KL-50J
L90CC	a	L90CC
L90S1	a	KL-50S1
L90S2	a	KL-50S2
L90S3	a	KL-50S3
L92A	a	KL-75
L92B	a	KL-75
L92D	a	KL-75
L92E	a	KL-75E
L92F	a	KL-75H
L92G	a	KL-75H
L92H	a	KL-75H
L92J	a	KL-75J
L99D	a	KL-75
L100D	a	KL-75
L120-75CC	a	KL-45
L122B	a	KL-75
LLL25	b	5H1
LLL-225	b	5E1
LX42B	a	4P45
LX42C	a	4P45
LX42D	a	4P45
LX49B	a	4P45
LX49C	a	4P45
LX49D	a	4P45
LX55B	a	4P45
LX55C	a	4P45
M17HG	a	KL-25H
M27HG	a	KL-25H
M30HG	a	KL-25H
M36C	a	KL-25
M36H	a	KL-25H
M42B	a	KL-45
M42C	a	KL-45
M42D	a	KL-45
M42HG	a	KL-50H
M42H	a	KL-50H
M45R	a	KL-45
M49B	a	KL-45
M49E1	a	KL-50E
M49H	a	KL-50
M49HG	a	KL-50
M50R	a	KL-45
M52H	a	KL-50
M55B	a	L55B
M55D	a	KL-45
M55E	a	KL-50
M55E1	a	KL-50
M55H	a	KL-50
M55HG	a	KL-50
M61B	a	KL-45
M80B	a	KL-75
M80H	a	KL-75
M80HG	a	KL-75
MT-650	a	MT-65
NB-1	b	NB-1
NB-2	b	NB-2
NB-3	b	NB-3
NB-4	b	NB-4
NB-5	b	NB-5
NB-6	b	NB-6
NB-7	b	NB-7
NB-8	b	NB-8
NTH	a	MT-65
NUA	a	KL-45
NUB	a	KL-45
PB57	a	PB57
P27287	a	KL-50
P26871	a	P26871
R6V	r	R6V
R-3003	a	R-3003
R1100	a	BBR
R43B2	a	R43B2
R130-180		
R161-300		
T-5	a	T-5
TU-34		KL-45
TU-83		KL-45
WRL5		
W-41187	s	W-4118
W-42105	b	3H-1C
W-42520	a	W-4252
W-43251	b	5E1
W-43357	a	KL-45
W-43282	b	6-1
W-44118	b	1G1
W-44338	a	W-4433
W-45788	a	KL-45
W-46773	a	KL-45
W-46416	a	KL-45
W46773	a	KL-45
X35-35	a	KL-45
X55B	a	KL-25
Y-TU-9	a	KL-45

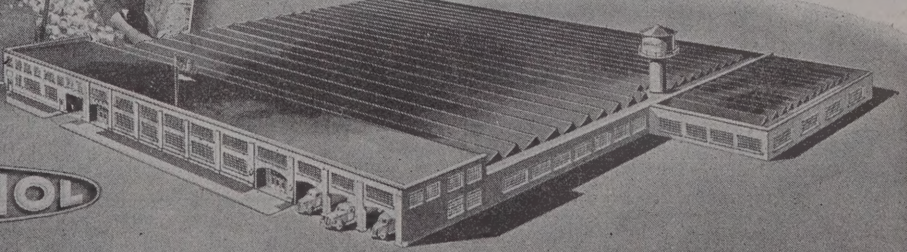
QUALITY COMPONENTS *for* RADIO *and* ELECTRONICS

Products of science and industry with built-in dependability designed and produced for expanding fields of application.

Today's Radio and Electronics "know-how" at Amphenol comes from pioneering research in keeping with growing needs and rapid development of Electronics. Radio and Electronic design, component functions, the best ways of precision, quantity production, wide distribution and prompt deliveries are the backbone of Amphenol service. Typical Amphenol products selected for listing in these pages from a full line and wide variety of Radio and Electronic supplies only partially indicate the complete line of products and services available for Radio and Electronic needs. Products are also made for special design projects and material specification according to customer's requirements. Inquiries will bring a prompt response with complete detailed information.

• • •

The following twenty-five pages represent a condensed listing of Amphenol's well known and complete line of Radio-Electronic component parts. Illustrated and described are Radio Parts and Accessories, Synthetics for Electronics, High Frequency Cables and Connectors, "AN" Connectors and "AN" Fittings.



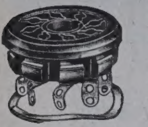
AMPHENOL

AMERICAN PHENOLIC CORPORATION
CHICAGO 50, ILLINOIS
AMPHENOL LIMITED, TORONTO, CANADA

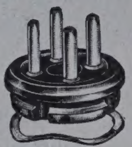
AMPHENOL *Builds to the Future of* ELECTRONICS

CABLES • CONNECTORS • SOCKETS
PLASTICS • PLUGS

AMPHENOL



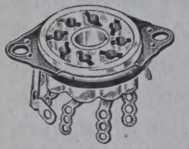
RETAINER RING "S" TYPE SOCKETS and "CP" TYPE PLUGS



— For quick easy assembly to chassis or panel from 19 gauge (.044″) to 16 gauge (.062″) using No. 4 Amphenol patented tempered steel retainer ring. High dielectric molded bakelite and cadmium plated contacts for easy soldering. Rotation feature for lining up contacts — wiring for short leads reduces chassis area required. Complete with retainer ring.

"S" Sockets	List Price
78-S4 — 4-Contact	**11c**
78-S5 — 5-Contact	**11c**
78-S6 — 6-Contact	**11c**
78-S7S — 7-Small	**11c**
78-7SL — 7-Large	**11c**
78-S7C — 7-Comb. for 7L and 7S	**14c**
78-S8 — 8-Octal	**14c**
78-S9 — 9-Contact	**17c**
78-S11 — 11-Contact	**24c**
78-8L — Loktal	**17c**

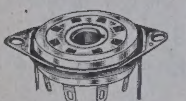
"CP" Plugs	List Price
86-CP4 — 4-Prong	**11c**
86-CP5 — 5-Prong	**11c**
86-CP6 — 6-Prong	**11c**
86-CP7S — 7-Prong Small	**11c**
86-CP7L — 7-Prong Large	**11c**
86-CP8 — 8-Prong (Octal)	**14c**
86-CP9 — 9-Prong (Octal style)	**17c**
86-CP11 — 11-Prong (Octal style)	**24c**



U.H.F. LOW-LOSS POLYSTYRENE SOCKETS

— Extremely low losses even at the highest frequencies. Transparent body molded from "912-A" polystyrene with extra long contact soldering lugs to prevent possible soldering heat damage. High efficiency in operation for temperature ranges not exceeding 200° F. Mounts in $1\frac{5}{32}$″ hole with 1½″ mounting centers.

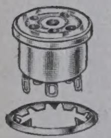
54-8—Octal Socket .... **40c list**



LOKTAL SOCKET

— Made of Amphenol "912-A" pure polystyrene like the octal but with floating contacts for small loktal tube prongs. Takes full advantage of the high efficiency of the loktal tubes which do not have a loss-inducing insulating material base.

54-8L—Loktal Sockets .... **45c list**



U.H.F. MINIATURE LOW-LOSS SOCKETS

— Amphenol "912-A" polystyrene 5 and 6 contact sockets for use with Miniature Amphenol polystyrene plug-in coil forms also listed. Greatly reduces U.H.F. circuit losses. Fits Hytron Bantam Jr. tubes.

54-5H — 5-Contact Miniature Socket .... **35c list**
54-6H — 6-Contact Miniature Socket .... **35c list**

No. 54-7P—MINIATURE POLYSTYRENE SOCKET.

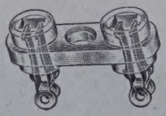
An ultra-low loss socket to take full advantage of the newly developed seven prong miniature tubes. Molded from Amphenol 912-A polystyrene.

54-7P—7-Contact Miniature Socket .... **35c list**

U.H.F. TIP JACK OR BUSHING

— Contact accommodates .080″ phone tip but contact may be removed and the transparent Amphenol "912-A" body used as a high frequency thru-panel bushing as well. Mounts in a plain round ⅝″ hole, and is held in place with No. 2-9 retainer ring included.

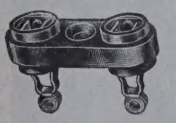
54-1H — U.H.F. Tip Jack .... **25c list**



CRYSTAL HOLDER SOCKET

— Same as 33-2 below except molded of ultra low-loss Amphenol "912-A" polystyrene. Contacts are of phosphor bronze, silver plated to keep resistance at a minimum. Contacts may be removed and the polystyrene body used as a two hole feed thru bushing.

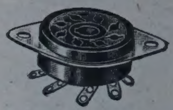
54-2 Crystal Holder Socket .... **30c list**



STANDARD CRYSTAL HOLDER SOCKET

— Of black or mica filled bakelite for crystal holders having two prongs on ¾″ centers. Easily mounted and requires minimum area on chassis or panel. Used extensively for crystal phasing in receivers, crystal control of transmitters and test equipment. May be used as dual tip jack on test panels. Cadmium plated contacts.

33-2 — For ⅛″ Diameter Prongs (Black Bakelite)	**8c list**
33-3 — For $\frac{5}{32}$″ Diameter Prongs (Black Bakelite)	**8c list**
33-2T — For ⅛″ Diameter Prongs (Mica Filled Bakelite)	**14c list**
33-3T — For $\frac{5}{32}$″ Diameter Prongs (Mica Filled Bakelite)	**14c list**



MIP MOLDED-IN-PLATE SOCKETS

—World's strongest socket. Sturdy steel mounting plate molded directly into bakelite body, cannot come loose or vibrate. 1½″ Mounting centers. Mounts in $1\frac{5}{32}$″ hole (MIP7L and MIP20 in $1\frac{9}{32}$″ hole). Molded from high dielectric black bakelite.

77-MIP4 — 4-Contact MIP Sockets	**10c list**
77-MIP5 — 5-Contact MIP Sockets	**10c list**
77-MIP6 — 6-Contact MIP Sockets	**10c list**
77-MIP7L — 7-Large MIP Sockets	**12c list**
77-MIP7S — 7-Small MIP Sockets	**10c list**
77-MIP8 — 8-Octal MIP Sockets	**12c list**
77-MIP9 — 9-Octal Style MIP Sockets	**15c list**
77-MIP11 — 11-Octal Style MIP Sockets	**20c list**
77-MIP12 — 12-Octal Style MIP Sockets	**25c list**
77-MIP20 — 20-Octal Style MIP Sockets	**50c list**

MIP LOKTAL

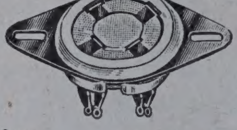
— Molded-in-plate socket for loktal tubes. Identical to standard MIP sockets but is smaller in size and has $1\frac{5}{16}$″ mounting centers. Mounts in ⅛″ hole.

88-8X — Loktal Socket .... **17c list**

MIDGET OCTAL

— Has all the features of the standard MIP sockets, but is smaller in size. For building compact radios and as the companion socket for the above loktal. Mounting centers, $1\frac{5}{16}$″. Mounts in 1⅛″ hole.

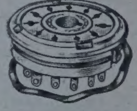
88-8 — Midget Octal .... **12c list**



STEATITE SOCKETS

— Recommended for high frequency work where high temperatures are encountered such as in transmitters, amplifiers having high output and for extensive replacement service use. Plates have slotted mounting holes to fit riveting centers from 1½″ to 1⅞″.

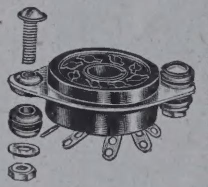
Less Plate	List		With Plate	List
49-SS4	**39c**	**4-Contact Steatite Socket**	**49-RSS4**	**40c**
49-SS5	**39c**	**5-Contact Steatite Socket**	**49-RSS5**	**40c**
49-SS6	**39c**	**6-Contact Steatite Socket**	**49-RSS6**	**40c**
49-SS7S	**39c**	**7-Small Steatite Socket**	**49-RSS7S**	**40c**
49-SS7L	**49c**	**7-Large Steatite Socket**	**49-RSS7L**	**50c**
49-SS8	**39c**	**8-Octal Steatite Socket**	**49-RSS8**	**40c**



MAGNAL STEATITE SOCKET

— Eleven contact socket of steatite as above. Has $1\frac{1}{16}$″ pin circle to accept magnal 11-prong bases as found on many popular cathode ray and television tubes. Has octal style locating keyway. Complete with No. 2-14 ring.

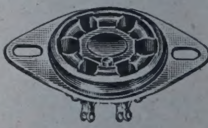
49-SS11L — Magnal Steatite Socket .... **$1.00 list**



FLOATING OCTAL SOCKETS

— Completely cushioned. Has enlarged mounting holes in the plate into which live rubber grommets are placed for cushioning the socket to obtain vibration free operation. Eliminates most tube microphonics. Mounts in a $1\frac{3}{16}$″ hole with two ¼″ screw holes on 1½″ centers. Complete with socket, four rubber grommets, two mounting screws, nuts and washers.

MIP8-FK — Socket With Kit .... **32c list**



REPLACEMENT SOCKETS

— Regular "S" sockets and "CP" plugs (listed to the left, above) assembled with No. 4 retainer ring to nickel-plated steel mounting plate with slotted mounting holes to fit riveting centers from 1½″ to 1⅞″. Extensively used by servicemen as replacements.

Socket	— Plug		List
78-RS-4	**— 86-RCP-4**	**— 4-Contact**	**12c**
78-RS-5	**— 86-RCP-5**	**— 5-Contact**	**12c**
78-RS-6	**— 86-RCP-6**	**— 6-Contact**	**12c**
78-RS-7S	**— 86-RCP-7S**	**— 7-Small**	**12c**
78-RS-7L	**— 86-RCP-7L**	**— 7-Large**	**12c**
78-RS-7C	**—**	**7-L & S — Comb.**	**15c**
78-RS-8	**— 86-RCP-8**	**— 8-Octal**	**15c**
78-RS-9	**— 86-RCP-9**	**— 9-Contact**	**18c**
78-RS-11	**— 86-RCP-11**	**— 11-Contact**	**25c**
78-RS-8L	**—**	**Loktal**	**18c**

MICA FILLED BAKELITE SOCKETS

All bakelite sockets and plugs on this page are also available molded from low-loss mica filled bakelite. To order, add letter "T" to catalog number and 6c to list price. Especially desirable for high frequency applications as mica filled bakelite has lower power factor and better dielectric constant.

CABLES
CONNECTORS
PLASTICS

AMERICAN PHENOLIC CORPORATION *Chicago 50*

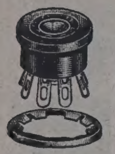
IN TORONTO
AMPHENOL LTD.

AMERICAN PHENOLIC CORPORATION

Chicago 50, Illinois

IN TORONTO • AMPHENOL LIMITED

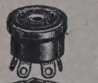
MINIATURE SOCKETS



78-7P RCA— For 7-prong miniature tube series. Metal shell in socket center for grounding to chassis. Mounts firmly in place in ⅝" hole with No. 2-9 retainer ring.

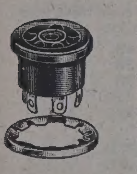
78-7P — 7-Contact Miniature Socket.............17c list

For socket as above but molded in U.H.F. polystyrene see listing on another page.



78-5P RAYTHEON — For 5-prong miniature tubes of the Raytheon hearing aid tube types. Mounts firmly in ½" hole with No. 2-10 retainer ring.

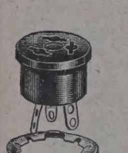
78-5P — 5-Contact Miniature Socket...............17c list



78-5H BANTAM JR. — For 5-prong Hytron Bantam Jr. miniature tube types with $\frac{3}{32}$" diameter prongs. Also in 6-prong types for coil forms and plug connections.

78-5H—5-Contact	**17c list**
78-6H—6-Contact	**17c list**

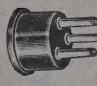
For socket as above but molded in U. H. F. polystyrene see listing on another page.



78-S3S PHOTOCELL — With contact spacing for practically all three prong miniature photocells — RCA Pee-Wee, Cetron, etc. Mounts firmly in ⅝" hole with No. 2-9 retainer ring.

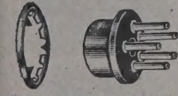
78-S3S—3-Contact..........14c list

MINIATURE PLUGS



Cable Plug

CABLE TYPE — Extremely compact plugs, used extensively for speaker connections in compact midgets. Also ideal for all plug-in connections where space is limited. Plated brass prongs are deeply recessed in individually molded pockets, preventing shorts due to insulation pulling back. With molded finger grip. Fit miniature sockets above.

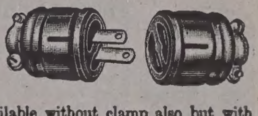


Chassis Plug and Ring

CHASSIS TYPE — Mounts in a plain round hole, ⅝" in diameter. No screws or rivets required. Held firmly in place by the No. 2-9 tempered steel retainer ring. Use with female miniature connectors (MPF types) on preceding page.

Chassis	Cable	Prongs	
86-CP-3S	71-3S	3	13c list
86-CP-4S	71-4S	4	13c list
86-CP-5S	71-5S	5	17c list
86-CP-6S	71-6S	6	17c list

SHIELDED CABLE CONNECTORS

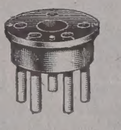


110-250 VOLT CONNECTORS— With 79-CC-4 cable clamps for cables up to ½" in diameter. Clamp take up cable pull and relieves soldered connections of strain. Extremely practical for plug and cable connections of power lines. Fully shielded cable terminals in molded bakelite connection units encased in a tightly covered drawn steel cap — snaps on and fits securely — easily removed. Available without clamp also but with rubber grommets for protection against abrasion.

With Clamp	List Price		With Grommet	List Price
61-F11	40c	2-Pole Universal Receptacle	61-F4	35c
61-M11	40c	2-Pole Standard Plug	61-M4	35c
61-MP11	40c	2-Pole Polarized Plug	61-MP4	35c
60-F11	50c	3-Pole Receptacle	60-F4	45c
60-M11	50c	3-Pole Polarized Plug	60-M4	45c

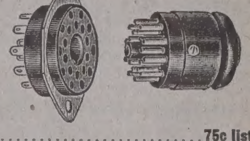
MULTI-WIRE CABLE CONNECTORS— Made of regular Amphenol "S" type tube sockets and "CP" plugs, snugly covered by a steel cap that fits tightly but may be removed with an ordinary screw driver. Cover is 1" in height, black japanned. A rubber grommet protects cable from abrasions. Metal cover shields connections and provides an unbreakable cable terminal. Small and sturdy. Accommodates cables to $\frac{7}{16}$".

Female	Male		
78-PF4	86-PM4	4-Contact	25c list
78-PF5	86-PM5	5-Contact	25c list
78-PF6	86-PM6	6-Contact	25c list
78-PF7S	86-PM7S	7-Small	25c list
78-PF7L	86-PM7L	7-Large	25c list
78-PF8	86-PM8	8-Contact	25c list
78-PF9	86-PM9	9-Contact	28c list
78-PF11	86-PM11	11-Contact	35c list



ONE PIECE MOLDED SPEAKER PLUGS— Have prongs securely molded into one piece body. Each prong is deeply set into individually molded pockets eliminating the possibility of shorts in case of wire insulation pull-back. Extensively used as speaker plugs, for intercommunication systems, public address, remote control, etc. Fit standard tube sockets.

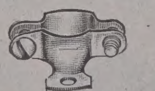
WITH FINGER GRIP		WITH STRAIGHT SIDE	
71-4 — 4-Prong	11c list	70-8 — 8-Prong	14c list
71-5 — 5-Prong	11c list	70-9 — 9-Prong	17c list
71-6 — 6-Prong	11c list	70-12 — 12-Prong	25c list
71-7 — 7-Prong	11c list	70-20 — 20-Prong	50c list



20-CONTACT SOCKET AND SHIELDED PLUG —Molded bakelite plug encased in black japanned steel shells for cables with up to twenty No. 18 conductors. Rubber grommet accepts cables to $\frac{7}{16}$" in diameter. Prongs molded directly into bakelite body, eliminating possibility of working loose or getting out of alignment. Molded octal type polarizing stud prevents incorrect insertions. Socket has molded-in steel mounting plate. Mounts in a $1\frac{9}{32}$" hole, with riveting centers of 1½".

70-PM-20 — 20-Prong Plug	**75c list**
77-MIP-20 — 20-Contact Socket	**50c list**

ACCESSORIES FOR CABLE CONNECTORS

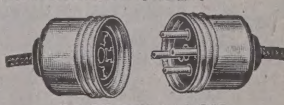


CABLE CLAMP— — Designed primarily for cable strain relief. Used with 78-PF and 86-PM connectors and 60 and 61 series. Simply remove rubber grommet for connector and slip this grip into place. Relieves soldered connections of strain. Also used on panels and chassis, to anchor cables firmly in place. Slips easily into any shape hole from $\frac{7}{16}$" to ⅝". No screws or rivets required.

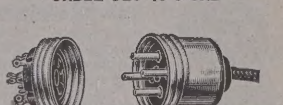
79-CC-4 Cable Clamp.............10c list

PULL-PROOF LOCKING SHELLS

CABLE TYPE— Cadmium-plated steel covers which can be slipped over "PF" and "PM" Connectors and 60 and 61 series 110-250 volt Connectors. Locks connectors firmly together, preventing accidental pull-aparts. Especially suited for public address work. Also used extensively in shops, etc., to pull proof connections in power cords. Set consists of one male and one female threaded shell.



CABLE SET 15-C-CAB



CHASSIS SET 15-C-CHA

15-C-CAB — Per Set...............................25c list

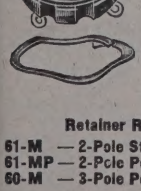
CHASSIS TYPE— Similar to the cable type in design except that one section is a threaded shell which fits under "S" type socket or retainer ring type 60 and 61 series. The other shell slips over the cable connector.

15-C-CHA — Per Set...............................25c list

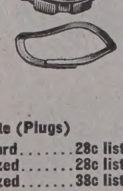
MICA FILLED BAKELITE SOCKETS

All bakelite sockets and plugs on this page are also available molded from low-loss mica filled bakelite. To order, add letter "T" to catalog number and 6c to list price. Especially desirable for high frequency applications as mica filled bakelite has lower power factor and better dielectric constant.

RECEPTACLES AND PLUGS 110-250 VOLT



Compact receptacles. Molded from high dielectric black bakelite. Rated at 15 amperes, 110 volts, or 10 amperes, 250 volts. Female type has both soldering lugs and binding screws; male has binding screws. 2-Pole type accepts any standard electric plug.



RETAINER RING TYPE (Receptacles)

61-F — 2-Pole Universal	**25c list**
60-F — 3-Pole Polarized	**35c list**

WITH MOUNTING PLATE (Receptacles)

61-F1 — 2-Pole Universal	**28c list**
60-F1 — 3-Pole Polarized	**38c list**

Retainer Ring Type (Plugs)

61-M — 2-Pole Standard	**25c list**
61-MP — 2-Pole Polarized	**25c list**
60-M — 3-Pole Polarized	**35c list**

With Mounting Plate (Plugs)

61-M1 — 2-Pole Standard	**28c list**
61-MP1 — 2-Pole Polarized	**28c list**
60-M1 — 3-Pole Polarized	**38c list**

Style similar to 61F above except has molded in plate like MIP sockets. 1½" mounting centers.

MIP-61F Receptacle...25c list

Essential Quality Parts for the **RADIO-ELECTRONIC** *Industry*

AMPHENOL *Builds to the Future of* **ELECTRONICS**

CABLES • CONNECTORS • SOCKETS
PLASTICS • PLUGS

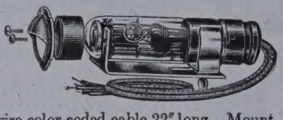
AMPHENOL

PREFOCUSED LAMP RECEPTACLE — For medium-base prefocused lamps as used in movie projectors. Also adaptable for using prefocused lamps in flood lights, beacons, searchlights, etc. and for experimental work. Molded from special high heat resisting bakelite to withstand temperatures to 450° F. Special air cooled design. Conservatively rated at 1000 watts, 110-250 volts. Listed by underwriters laboratories. Heavy brass contacts assure minimum resistance for maximum light intensity. Can be installed in most movie projectors without drilling new holes. Heavy fiber insulator to cover terminals after wiring included with receptacle alone, not needed with cap.

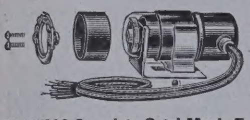
Insulating cap for receptacle available for use when socket is suspended or to add ½″ to height of socket or to insulate wire terminals from panel.

98-8 Receptacle only .... **$1.75 list**
98-8A Receptacle and cap .... **$2.25 list**

MAGIC EYE ASSEMBLY—For the easy adapting or replacing of a six prong magic eye tube in any radio having automatic volume control. Also for FM receivers, test instruments, signal tracers and as volume level and modulation indicators. Includes one-megohm target-plate resistor wired into socket and five wire color coded cable 22″ long. Mounting bracket is slotted for tube adjustment. Complete as above with antique bronze escutcheon and necessary hardware for assembly. Tube not included.



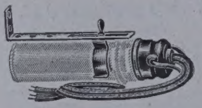
58-MEA6 Complete Magic Eye Assembly .... **$1.25 list**



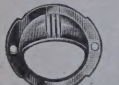
OCTAL MAGIC EYE ASSEMBLY—Similar to the above, but for octal type magic eye tubes. Has a shorter bracket for the smaller tube size. Complete with 6 wire 22″ long color coded cable and full vision type antique bronze escutcheon and necessary hardware for assembly. Tube not included.

58-MEA8 Complete Octal Magic Eye Assembly .... **$1.25 list**

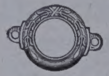
CATHODE RAY ASSEMBLY — Widely used for mounting 902, 913 and similar cathode ray tubes. Bakelite socket mounted in a protective metal shell, completely wired with eight wire 22″ long color coded cable. Adjustable "L" bracket for mounting on panel front or base. Tube not included.



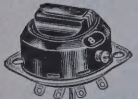
58-913 Complete Cathode Ray Assembly .... **$1.00 list**



MAGIC EYE ESCUTCHEONS — No. 10-1 hood type, large size for mounting over panel or cabinet hole. No. 10-2 Octal base full vision type. Brass with antique bronze finish.



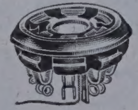
10-1 — For 6-Prong Single Eye Tubes .... **25c list**
10-2 — For 8-Prong Double Eye Tubes .... **30c list**



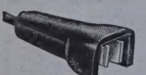
TAP CHANGE SWITCH — An 8-position single pole continuous switch with white numerals clearly visible in window cap. Supplied with markings 1-2-3-4-5-6-7-8 or impedance markings 0-2-4-8-16-250-500. Side set screw locks switch-arm in position, preventing accidental tap changes.

36-1 — With Numerals 1 to 8 .... **75c list**
36-2 — With Impedance Markings .... **75c list**

BULB TESTER SOCKET — A standard 7-contact combination socket for large and small 7-prong tubes and has a large center contact for testing miniature bulbs, either screw or bayonet base types.



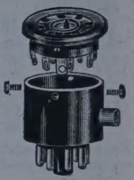
78-7CD — With Retainer Ring .... **44c list**
78-RS7-CD — With Mounting Plate .... **45c list**



UNIVERSAL GRID CAP — A grid cap of improved design, wired or unwired, for universal use with tube grid caps from ¼″ to ⅜″ diameter including standard glass and metal tubes. Spring brass contacts in bakelite body.

63-1 — Unwired .... **15c list**
63-1W — Wired .... **20c list**

UNWIRED ADAPTERS—A simple way to make adapter units which may be used for modernizing tube checkers and analyzers, adapting new tubes to old circuits — for connections to output meter, phonograph pick-up, headphones, extra speakers, recorders and other adapter uses.



ADAPTER SOCKET TOPS ONLY—20c list

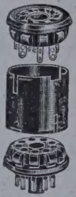
44-4 — 4-Contact — For Small Bases — 44-7S ...... 7 Small
44-5 — 5-Contact — For Small Bases — 44-8 .... 8-Octal
44-6 — 6-Contact — For Small Bases — 44-L .... Loktal
44-7L — 7-Large — Fit Large Bases Only — 44-7C .. 7 Comb.

LOKTAL ADAPTER BASES — Similar to small bases above but have metal band and lock-in stud like loktal tubes.

44-13 Loktal Base (No side hole or side stud) .... **55c list**

ADAPTER BASES ONLY in TWO STYLES — With 5/32″ side hole for lead out wiring or with a side stud accommodating a metal tube grid cap clip. Both tops (above) and bases are drilled for self tapping screws which are supplied with bases.

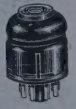
Number of Prongs	SMALL BASES	Side Hole List 20c	Side Stud List 30c
4-Prong		50-4D	50-4G
5-Prong		50-5D	50-5G
6-Prong		50-6D	50-6G
7-Small		50-7SD	50-7SG
8-Octal		50-8SD	50-8SG
	LARGE BASES		
7-Large for 44-7L and 44-7C sockets only		50-7LD	50-7LG
8-Octal for 44-7L and 44-7C sockets only		50-8LD	50-8LG



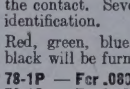
ADAPTER SHELL — Of metal tubing, black japan finish, for snap in connection on either end of Amphenol "S" type sockets or "CP" type plugs. Connection is made quickly and socket or plug is held firmly but is easily removed. Combinations possible from 4-prong or contact to 11-prong or contact. May also be used with 110 volt plugs and receptacles for inserting small resistors or condensers in a line. In two types — blank or side hole with rubber grommet for bringing out leads.

3-14 — Without Side Hole .... **15c list**
3-14D — With Side Hole .... **20c list**

MINIATURE TUBE ADAPTERS — Unwired for testing miniature tubes. 44-17-8 Socket top for 7-prong miniature tubes, 44-12-8 socket top for Hytron Bantam Jr. 5-contact tubes, and 44-26-8 socket top for Raytheon 5-prong miniature tubes. All have octal bases.



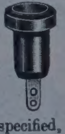
44-17-8 for 7-Prong Miniature Tube .... **50c list**
44-12-8 for 5-Contact Hytron Bantam Jr. Tube .... **50c list**
44-26-8 for 5-Prong Raytheon Miniature Tube .... **50c list**



BLANK SOCKET — "S" type socket as listed on another page for mounting in the standard 1 11/64″ "S" type socket hole. Used primarily as a dummy or spare socket on tube checkers and analyzers so a new "S" type socket can easily be added when a socket for new type tubes is required. May be used as a bakelite bushing by drilling a hole in the center.

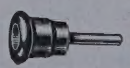
78B Blank Socket .... **6c list**

SINGLE CONTACT SOCKETS — Of molded bakelite for mounting in 5/16″ hole — held firmly in place by Amphenol Retainer Ring No. 2-11. Contacts recessed approximately ⅛″ below the top of the tip jacks prevent accidental shorts from contact to chassis. The bakelite body may be used as a feed thru bushing by removing the contact. Seven colors and 4 prong diameters for quick wiring identification.



Red, green, blue, yellow, gray, walnut or black. If no color is specified, black will be furnished.

78-1P — For .080″ Phone Tip .... **7½c list**
78-1S — For 3/32″ Plug .... **7½c list**
78-1M — For ⅛″ Plug .... **7½c list**
78-1L — For 5/32″ Plug .... **7½c list**

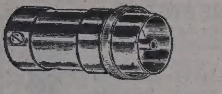
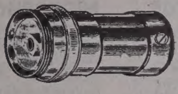
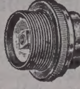


SINGLE PRONG PLUGS— A small but extremely useful plug in colors, for connection with sockets listed above.

Red, green, blue, yellow, gray, walnut or black. If no color is specified, black will be furnished.

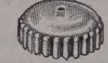
71-1S — For 3/32″ Socket .... **5c list**
71-1M — For ⅛″ Socket .... **5c list**
71-1L — For 5/32″ Socket .... **5c list**

CABLES
CONNECTORS
PLASTICS
AMERICAN PHENOLIC CORPORATION *Chicago 50* IN TORONTO AMPHENOL LTD.

LOW-LOSS COAXIAL CABLE CONNECTORS —for cables up to 13/32" O.D. May be reamed out for cable up to 7/16" O.D. Shell machined from solid brass, plated in heavy polished chrome. Connector elements made of "912-A" Amphenol low-loss polystyrene. Male shells have threaded locking rings for tight connections. Cable units have metal clamp for tight cable grip and safe ground connection. CHASSIS UNIT mounts in 13/16" hole and has soldering lug, lock washer and nut.

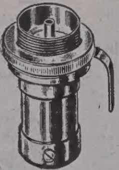
93-M — Male Cable Connector	**$1.50 list**
93-F1 — Female Cable Connector	**$1.50 list**
93-F — Female Cable Connector	**$1.50 list**
93-M1 — Male Cable Connector	**$1.50 list**
93-C — Female Chassis Connector	**$1.25 list**
93-C1 — Male Chassis Connector	**$1.25 list**



LOW-LOSS "912-A" COAXIAL CABLE END TERMINAL CAP — For connection to Antenna Cable End Terminal as listed below. Molded in an umbrella like design, of pure polystyrene, Amphenol high dielectric, low-loss material. A coat of Amphenol "912-A" liquid polystyrene on the cap threads and wire opening will make the terminal connection weather-tight. Size — 1/2" high and 1 7/32" across.

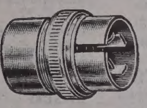
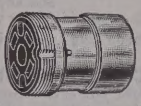
90-15 End Terminal Cap as above	**25c list**

For Liquid "912-A" See Synthetics Page.



LOW-LOSS COAXIAL CABLE END TERMINAL— For connection of coaxial cable to antennas, open wires and matching stubs. For a suspended connection or for connection to bracket or insulator in 25/32" hole without strain on the aerial. May be sweated on copper tube cable and body solder lug may be used for connection to dipole and doublet aerials. When used with terminal cap listed above, connection is weather-tight.

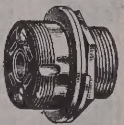
93-M5 Antenna Cable End Terminal	**$1.50 list**

HEAVY DUTY POWER CONNECTORS — Has four, flat, heavy brass blades in the male molded bakelite unit for connection with set-back contacts of phosphor bronze in the molded bakelite female unit. Frequent use is possible over long periods without damage even with heavy current loads of 15 amperes at 125 volts or 10 amperes at 250 volts. Full, body-tight heavy brass shell — bright cadmium plate. Polarized with shell keys and keyways. Terminals of bakelite units are numbered for quick wiring. Strain is taken up by a strong cable clamp grip. Grounding screw in body for safe wiring. Threaded locking ring keeps connections tight.

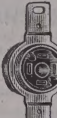
UL

92-M — Male	**$2.50 list**	**92-F — Female**	**$2.50 list**
92-F1 — Female	**$2.50 list**	**92-M1 — Male**	**$2.50 list**



HEAVY DUTY CHASSIS OR PANEL RECEPTACLE — With male or female molded bakelite unit for use with Heavy Duty Power Connectors — Use 92-M with 92-C and 92-F1 with 92-C1. Mount in 1 1/4" hole in any material thickness up to 1/2". Complete with lock washer, spacer washer and hexagon nut. Can be covered with CCC8 cap and chain described below, when not in use.

92-C — Female	**$2.50 list**
92-C1 — Male	**$2.50 list**

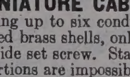
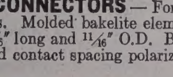
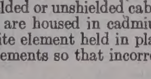


HEAVY DUTY FLUSH RECEPTACLES — With male or female bakelite unit in strong, steel body-frame. Used with Heavy Duty Power Connectors — 92-F1 with 92-M2 and 92-M with 92-F2 — in regular wall switch boxes. Full, open connection end will come thru wall plate 1/8" for good connection to grip locking ring or for cap and chain described below for a closed outlet when not in use.

92-M2 — Male	**$2.60 list**
92-F2 — Female	**$2.60 list**
84-2CH — Wall Plate for use with above	**75c list**

CAP AND CHAIN — Heavy Duty Chrome Plated Brass Cap with bead chain similar to CCC1 and CCC3 but larger in size, to be used with chassis and flush receptacles above and chassis units of heavy duty radio connectors below.

79-CCC8 Cap and Chain	**50c list**

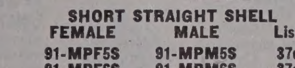




MINIATURE CABLE CONNECTORS — For shielded or unshielded cables having up to six conductors. Molded bakelite elements are housed in cadmium plated brass shells, only 1 3/16" long and 11/16" O.D. Bakelite element held in place by side set screw. Staggered contact spacing polarizes elements so that incorrect insertions are impossible.

LONG STRAIGHT SHELL

FEMALE	MALE		List
91-MPF3L	91-MPM3L	3-Contact Plug	30c
91-MPF4L	91-MPM4L	4-Contact Plug	33c
91-MPF5L	91-MPM5L	5-Contact Plug	37c
91-MPF6L	91-MPM6L	6-Contact Plug	37c

FLANGED SHELL FEMALE	STRAIGHT SHELL MALE		List
91-MPF3	91-MPM3	3-Contact Miniature Cable Connector	30c
91-MPF4	91-MPM4	4-Contact Miniature Cable Connector	33c
91-MPF5	91-MPM5	5-Contact Miniature Cable Connector	37c
91-MPF6	91-MPM6	6-Contact Miniature Cable Connector	37c



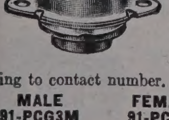
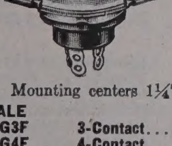
SHIELDED PLUGS — Short shell is 13/16" long same as above but for locations where small plug is desired.

SHORT STRAIGHT SHELL

FEMALE	MALE	List
91-MPF3S	91-MPM3S	30c
91-MPF4S	91-MPM4S	33c

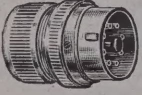
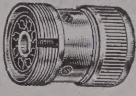
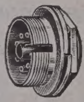
SHORT STRAIGHT SHELL

FEMALE	MALE	List
91-MPF5S	91-MPM5S	37c
91-MPF6S	91-MPM6S	37c

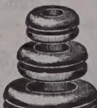
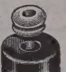
SHIELDED CHASSIS UNITS— For up to six conductor shielded or unshielded cables. Use where a compact shielded connector is desired. For cable connection with 91-MPM-L and 91-MPF-L according to contact number. Mounting centers 1 1/4".

MALE	FEMALE		
91-PCG3M	91-PCG3F	3-Contact	30c list
91-PCG4M	91-PCG4F	4-Contact	33c list
91-PCG5M	91-PCG5F	5-Contact	34c list
91-PCG6M	91-PCG6F	6-Contact	34c list

HEAVY DUTY RADIO CONNECTORS

No. of Con-tacts	Cable Connector With Coupling Ring		Cable Connector With Coupling Thread		Chassis Unit With Coupling Thread		List Price
	Male	Female	Male	Female	Male	Female	
4	79-04M	79-04F1	79-04M1	79-04F	79-P04M	79-P04F	$1.25
5	79-05M	79-05F1	79-05M1	79-05F	79-P05M	79-P05F	1.25
6	79-06M	79-06F1	79-06M1	79-06F	79-P06M	79-P06F	1.25
8	79-08M	79-08F1	79-08M1	79-08F	79-P08M	79-P08F	1.25
12	79-012M	79-012F1	79-012M1	79-012F	79-P012M	79-P012F	2.00

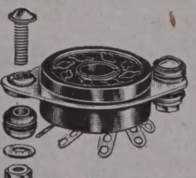



RUBBER CUSHIONS — Live rubber cushions for inserting in chassis or panel riveting holes to lessen vibration of an assembled part such as a tube socket. Molded from pure rubber.

22-6 — Rubber Cushion for 3/8" Hole	**100 for $3.00**
22-10 — Rubber Cushion for 1/4" Hole	**100 for 1.50**

BLACK RUBBER GROMMETS — For protecting cables from abrasions when passing thru a chassis or panel hole.

22-1 — For 9/16" hole, 7/16" I.D. Grommet	**100 for $1.25**
22-2 — For 7/16" hole, 5/16" I.D. Grommet	**100 for 1.05**
22-3 — For 5/16" hole, 3/16" I.D. Grommet	**100 for .90**



ANTI-MICROPHONIC KIT — Socket cushions and all the necessary parts for making floating connections using Amphenol MIP sockets. Contents in an envelope with complete instructions consist of four live rubber cushions, metal washers, mounting screws and nuts. Used to overcome tube microphonics wherever cushioned sockets are necessary, especially in photo-cell work, ultra-sensitive circuits, and for some battery tubes.

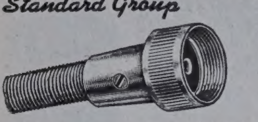
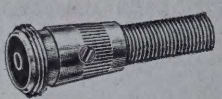
11-3K Kit Less Socket	**20c list**

AMPHENOL *Builds to the Future of* ELECTRONICS

CABLES • CONNECTORS • SOCKETS
PLASTICS • PLUGS

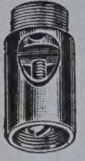
AMPHENOL

Standard Group

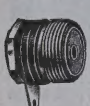
SINGLE CONTACT MICROPHONE CONNECTORS — SHIELDED CABLE TYPE— Unbreakable machined brass shell chrome-plated: with coupling ring for tight connections. Spring cord protectors accommodate cables to ¼" diameter.

75-MC1F — Female.................... 50c list
75-MC1M — Male...................... 40c list



SIDE CABLE OUTLET— Designed to be placed between a microphone and stand having ⅝" 27 standard threads. Its purpose is to provide an outlet for the microphone cable where it is not desired to run it through the stand tubing. Efficient cable grip relieves strain. Heavy metal castings, finished in polished chrome.

57-SCO3.............................. 75c list

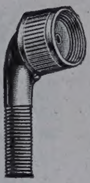


CHASSIS UNIT — Use in holes — .385" to ground to chassis or ½" for 2 independent circuits. Has extruded fibre washer, flat fibre washer, flat solder lug washer and locking nut. Use MC1F or MC1F-A cable connector.

75-PCIM — 1-Contact......... 30c list

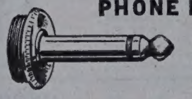
PRESSURE CABLE CONNECTOR—Like MC1M listed above but center insulated contact is enforced by a heavy coil spring at the back for positive connection. Used for any unit fitting MC1M. Supplied with spring cord protector for cables to ¼".

75-SP-MC1M — Pressure Connector.......... 50c list



ANGLE CONNECTOR UNIT—For cable connection at right angles to chassis. Used on amplifiers, transmitters, and other apparatus with PC1M, SP-PC1M or CL-PC1M. No need for long bends in cable with this unit which prevents breakage of cable shields and center conductors. Shell portion, polished chrome. With spring cord protector for cables to ¼".

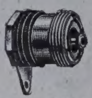
75-MC1F-A — Female..........
Angle Connector........... 60c list



PHONE PLUG ADAPTER

For MCIF and MC1F-A connectors and any standard phone jack — no soldering or wiring.

75-MC1P — Phone Plug....... 45c list



CLOSED CIRCUIT CONNECTOR

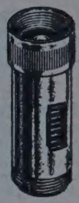
Same as PC1M but circuit closes when cable connector is removed, eliminating open circuit grid howls. Same thread and hardware supplied as on PC1M. Contact is spring-actuated. Use MC1F or MC1F-A as the cable connector.

75-CL-PC1M — Closed Circuit .... 40c list

PRESSURE CHASSIS UNIT — Like PC1M Chassis Unit, but heavy coil spring enforces center contact. Fits same connectors as PC1M.

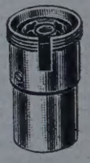
75-SP-PC1M.............................. 40c list

MICROPHONE SWITCH— Compact, unbreakable microphone switch. Male threads fit the MC1F and MC1F-A. Coupling ring fits any other 75 Series connector having coupling threads. No tools or wiring is required. May be connected directly to any mike which has the PC1M installed, also between amplifier and mike cable, or between two cables connected with MC1M and MC1F. PUSH-TO-TALK, and release the button for stand-by; or SLIDE SWITCH forward for permanent connection. Switch short-circuits mike. Shell machined from solid brass, chrome plated.



75-MC1S — Switch................ $1.00 list

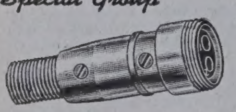
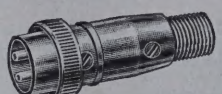
STAND CONNECTOR— Screws on to top of any standard microphone stand. Female thread is ⅝"–27. Finished in polished chrome brass. Permits easy removal of mike.



91-SC3F — 3-Contact Female.. .... $1.00 list
91-SC4F — 4-Contact Female.. .... $1.10 list

LOW-LOSS MICA FILLED INSERTS— Add "T" to catalog numbers and 6c to list for higher dielectric with improved power factor of low-loss **mica filled bakelite** inserts for connectors. NOTE: Not available in 75 Series.

Special Group

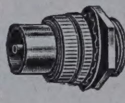
1 AND 2 CONTACT CONNECTORS — CABLE TYPE — For small coaxial cables, microphone cables, speakers and other connections. Standard sleeve type contacts and male prongs for positive contact. Unbreakable brass shell, polished chrome finish. Molded element of high dielectric black bakelite. Screw type coupling ring for tight connections and spring cord protector for cables up to 5/16".

80-F — 1-Contact Female........................ 65c list
80-M — 1-Prong Male........................... 65c list
80-MC2F — 2-Contact Female..................... 80c list
80-MC2M — 2-Prong Male......................... 80c list

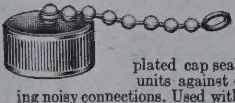
FOR LARGER CABLES — Male connectors like 80-M and 80-MC2M above except has larger back shell for use of a larger spring cord protector which accommodates cables to .410" diameter.

80-81 — 1-Prong Male............................ 65c list
80-85 — 2-Prong Male............................ 80c list

CHASSIS UNIT WITH COUPLING RING—For connection on chassis, panel or threading into microphone body with standard ⅝"–27 thread. Coupling ring engages 80-F or MC2F Cable Connector. Brass shell, chrome plated. With hex nut, lock washer, and flat washer. Mounts in ⅝" hole.



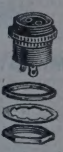
80-MSP — 1-Pole Male...... 80c list
80-SP-MC2M — 2-Pole Male....... 90c list



CAP AND CHAIN — — Chrome plated cap seals open chassis units against dust, eliminating noisy connections. Used with any threaded 1 or 2-conductor chassis unit — PC1M, CL-PC1M, 80-C, 80-CR, PC2F, etc.

75-CCC-1 — Cap and Chain......... 50c list

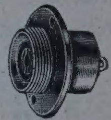
CHASSIS UNITS — LOCK NUT MOUNTING — Shielded chassis connectors. Complete with lock washer and hexagon locking nut. Mounts in 21/32" hole.



80-C — 1-Contact Female... .... 40c list
80-C1 — 1-Prong Male... .... 40c list
80-PC2F — 2-Contact Female... .... 45c list
80-PC2M — 2-Prong Male........... 45c list

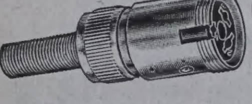
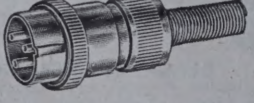
RIVETING PLATE CHASSIS UNIT —

For fast mounting with rivets or replacement where units listed above are too small. 1 1/16" dia. plate part of entire unit, machined from solid brass, chrome plated. 27/32" mounting centers.



80-CR — 1-Pole Female......... 50c list
80-PC2-CR — 2-Pole Female......... 55c list

Deluxe Group

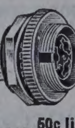



3 AND 4 CONTACT MICROPHONE CONNECTORS — Molded bakelite elements encased in unbreakable chrome-plated polarized brass shells. By removing cap and spring cord protector, connector can be screwed into microphone having ⅝"–27 thread, standard for this industry. Screw type coupling ring prevents accidental disconnections, 3-Contact connectors take cables up to ¼" diameter; 4-contact to ⅜" diameter.

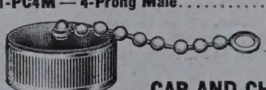
Male	Female		List
91-MC3M	91-MC3F	3-Contact..................	$1.00
91-MC3M1	91-MC3F1	3-Contact..................	1.00
91-MC4M	91-MC4F	4-Contact..................	1.10
91-MC4M1	91-MC4F1	4-Contact..................	1.10

CHASSIS CONNECTORS

For 13/16" hole in any panel or chassis up to ½" thick. Permanently fixed element in plated-brass shell. Complete with mounting ring, lock washer, and hexagon lock nut.



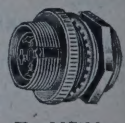
91-PC3F — 3-Contact Female........ 50c list
91-PC3M — 3-Prong Male........... 50c list
91-PC4F — 4-Contact Female........ 55c list
91-PC4M — 4-Prong Male........... 55c list



CAP AND CHAIN— Chrome-plated cap seals open chassis units against dust, eliminating noisy connections. Use with any 3 or 4 contact chassis unit with threads.

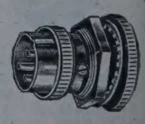
91-CCC-3—For PC3F, PC4F, etc.......50c list

SPECIAL CHASSIS UNIT—Similar to regular chassis connector but for use on thick panels. Female units fit panels to ¾" thick. Recessed solder lugs prevents physical damage and danger of shock. Use MC3M or MC4M as cable connector.



91-SP-PC3F — 3-Contact Female...$1.00 list
91-SP-PC4F — 4-Contact Female...$1.10 list

Special male units fit panels up to ⅜". Front extends ½". Chrome plated shell with coupling ring. Use with MC3F or MC4F cable connector.



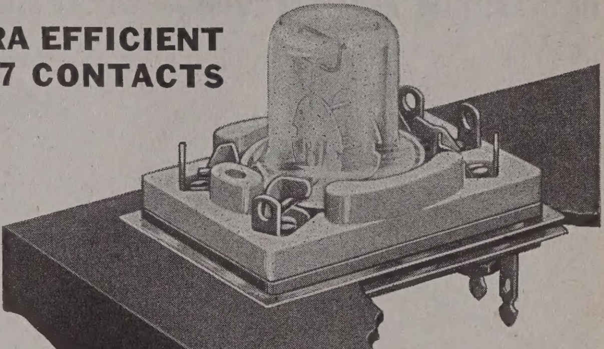
91-SP-PC3M — 3-Prong Male.... $1.00 list
91-SP-PC4M — 4-Prong Male.... $1.10 list

CABLES
CONNECTORS
PLASTICS

AMERICAN PHENOLIC CORPORATION *Chicago 50*

IN TORONTO
AMPHENOL LTD.

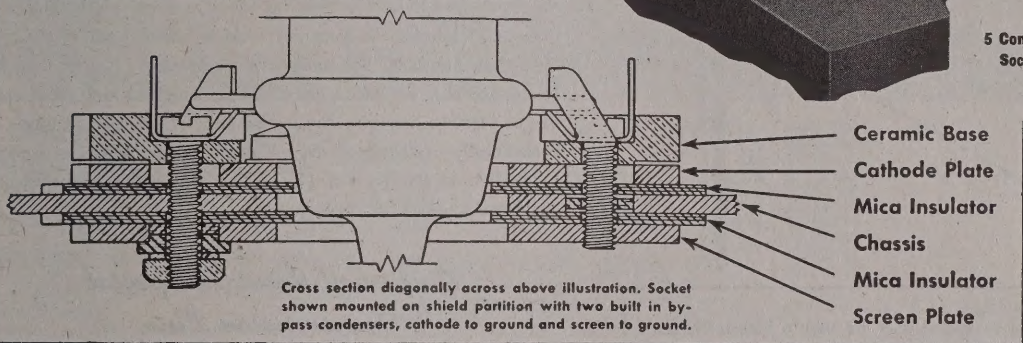
AMPHENOL HIGH QUALITY—EXTRA EFFICIENT ACORN SOCKETS—WITH 5 AND 7 CONTACTS



5 Contact Type Acorn Socket 1" x 1-3/8".

The Amphenol Ultra High Frequency Acorn Tube Sockets illustrated are designed to meet the exacting, rigid Army-Navy and commercial specifications and are made of the best known materials available today for minimum electrical loss at ultra high frequencies.

Treatment of the ceramic support does not use the outmoded method of glazing for moisture protection which cannot be done all over due to mechanical difficulties. Scientific tests have proven that unglazed ceramic is a better dielectric material when perfectly dry. To protect this condition Amphenol Acorn Sockets are silicone treated all over. Under this condition the electrical properties are improved over the ceramic alone. Moisture collecting on the surface is isolated into drops that are well insulated from each other, thus insuring high resistivity.



Cross section diagonally across above illustration. Socket shown mounted on shield partition with two built in by-pass condensers, cathode to ground and screen to ground.

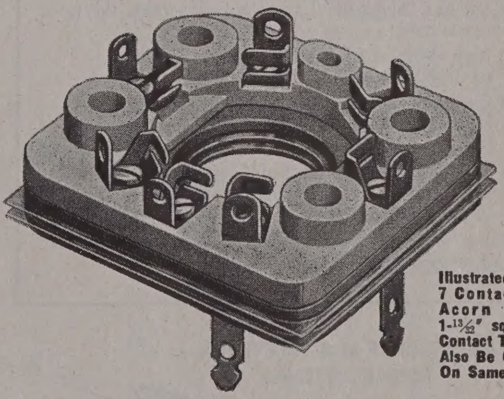
Special and exclusively designed contacts in Acorn sockets hold the tube without requiring high insertion and withdrawal pressures which normally would break the glass seal to the pins. Amphenol Acorn Sockets use a rotary insertion and withdrawal guided by barriers to insure centering and making contact in the same groove, thus eliminating any change in external capacitances. Construction is such that contact is assured although tube pins may be slightly misaligned.

The contacts are made of Grade A phosphor bronze, heavily silver plated. For the military services beryllium copper contacts heat treated and heavily silver plated are also available. The ceramic bases are made of Grade G steatite silicone treated.

By-pass condensers for cathode and screen are built into the socket to keep the lead inductance low. The **151-001** Amphenol Acorn Socket design lends itself to mounting on the variable condenser shield plate so as to get short connections for the U.H.F. bands. The by-pass condenser can also be mounted to this same plate for further efficiency.

151-001 Amphenol Acorn Socket is designed for mounting with screen and cathode by-pass condensers on chassis punched to fit (see detailed cross section). Overall dimensions 1" x 1⅜", no mounting holes are provided in the ceramic part.

151-003, 151-017, 151-005 and 151-019 Amphenol Acorn Sockets have two mounting positions 60° apart on 13/16" centers and 5/32" diameter holes molded in raised bosses for strength. Underside of the socket is ground flat to insure perfect contact when self contained by-pass condensers are used integral with chassis. Size 1-13/32" x 1-13/32".



Illustrated Is The 7 Contact Type Acorn Socket 1-13/32" square. 5 Contact Type Can Also Be Obtained On Same Base.

LISTED STYLES OF ACORN SOCKETS

151-001	5 Contact cathode and screen by-pass Acorn Socket — bronze contact — grounding plate cannot be used. For mounting directly on chassis. Size 1" x 1⅜".
151-003	5 Contact Acorn Socket — bronze contact — integral chassis mounting type. Size 1-13/32" x 1-13/32".
151-017	5 Contact cathode and screen by-pass Acorn Socket—bronze contact—complete with grounding plate. Size 1-13/32" x 1-13/32".
151-005	7 Contact Acorn Socket — bronze contact. Size 1-13/32" x 1-13/32".
151-019	7 Contact cathode by-pass Acorn Socket—bronze contact — complete with grounding plate. Size 1-13/32" x 1-13/32".

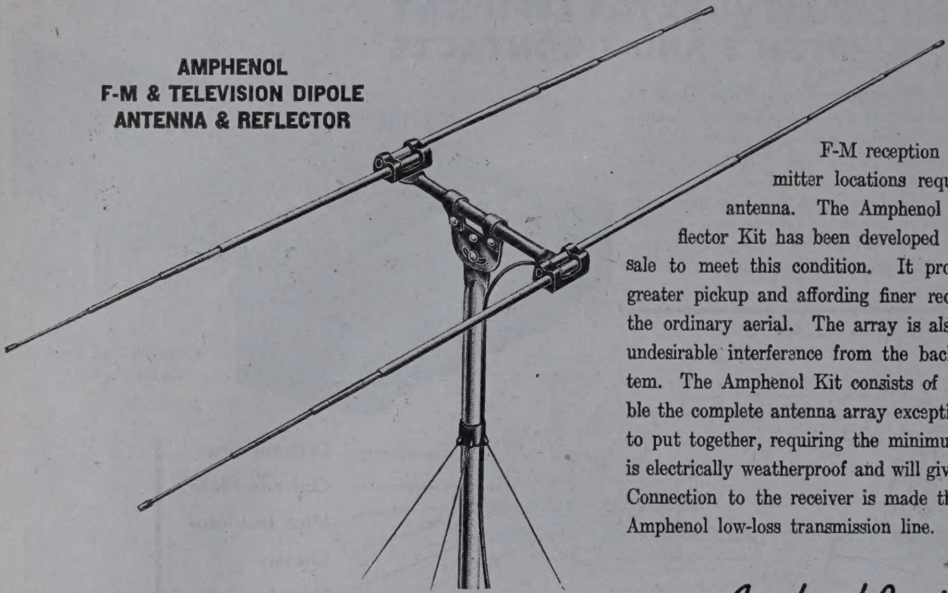
AMPHENOL *Builds to the Future of* **ELECTRONICS**

CABLES • CONNECTORS • SOCKETS
PLASTICS • PLUGS

AMPHENOL

BETTER F-M AND TELEVISION RECEPTION WITH AMPHENOL DIPOLE ANTENNAS

AMPHENOL
F-M & TELEVISION DIPOLE
ANTENNA & REFLECTOR



F-M reception at some distances from transmitter locations requires a better than ordinary antenna. The Amphenol F-M Dipole Antenna and Reflector Kit has been developed for postwar requirements and sale to meet this condition. It provides high gain resulting in greater pickup and affording finer reception than is possible with the ordinary aerial. The array is also directional which eliminates undesirable interference from the back or reflector side of the system. The Amphenol Kit consists of the necessary parts to assemble the complete antenna array excepting the guy wires. It is easy to put together, requiring the minimum of experience and time. It is electrically weatherproof and will give years of trouble-free service. Connection to the receiver is made thru the special, high-efficiency Amphenol low-loss transmission line.

Any array that is erected must be able to withstand the forces of the elements to which it is subjected. In designing the Antenna, Amphenol Engineers incorporated the following features:

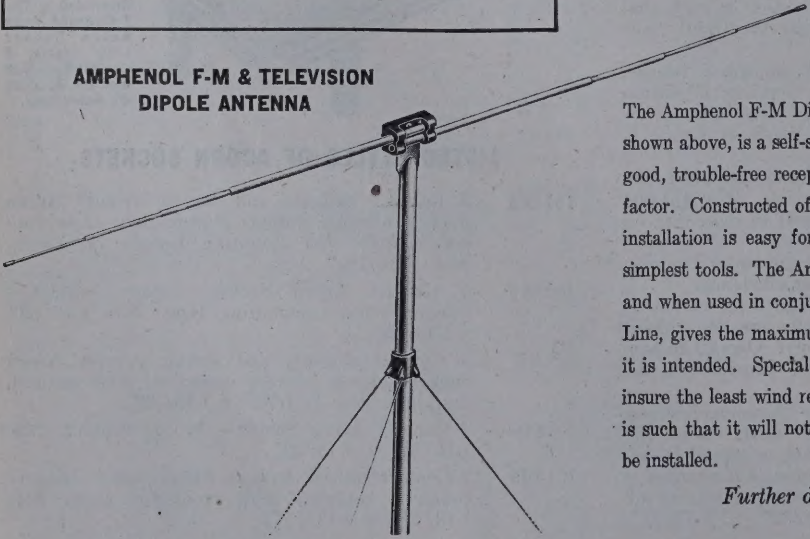
- High electrical efficiency thru use of high dielectric insulation.
- Lightness and superior strength in tubular steel construction resisting extreme wind velocity, sway and damage caused by birds.
- Swivel feature of both types of antenna for reduction or omission of undesirable reflections resulting in multipath distortion in television reception.

Antenna or arrays are available to cover effectively the entire range of television and F-M Frequencies.

Amphenol Provides Special Transmission Line

To match the Amphenol Dipole Antennas, a special low-loss transmission line has been developed which will bring in the signal to the receiver with minimum attenuation. Amphenol low-loss transmission line is available with the kit in convenient 75 foot lengths or can be ordered separately in longer lengths to meet insulation requirements.

AMPHENOL F-M & TELEVISION
DIPOLE ANTENNA



The Amphenol F-M Dipole Antenna, as well as the Antenna-Reflector shown above, is a self-supporting array which is engineered to provide good, trouble-free reception in the F-M bands where losses are a big factor. Constructed of metal, it is very light weight, yet strong, and installation is easy for the average person who is handy with the simplest tools. The Amphenol Dipole Kit is electrically weatherproof and when used in conjunction with Amphenol Low-Loss Transmission Line, gives the maximum reception efficiency for the bands to which it is intended. Special precautions have been taken in the design to insure the least wind resistance. The overall appearance of the array is such that it will not act to deface any structure on which it is to be installed.

Further details and price information upon request.

CABLES
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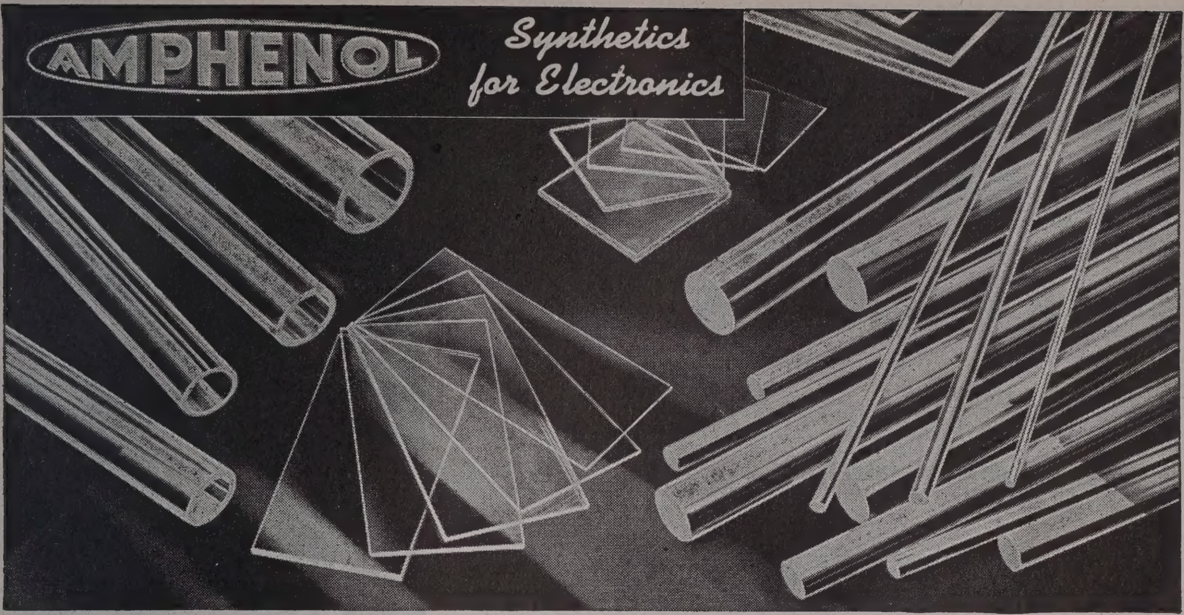
AMPHENOL Synthetics for Electronics



Characteristic Reference

AMPHENOL 912A is POLYSTYRENE

AMPHENOL 912B is ACRYLIC

AMPHENOL 9746 is TRANSPARENT VINYL

AMPHENOL "912-A" SHEET STOCK supplied in sizes per number listing below. 4" x 8" sizes have optical clarity suitable for dial window and gauge glass applications.

19-0624	4" x 4" x 1/16"	$ .60
19-0934	4" x 4" x 3/32"	.63
19-1254	4" x 4" x 1/8"	.66
19-1874	4" x 4" x 3/16"	.77
19-2504	4" x 4" x 1/4"	1.00
19-0628	4" x 8" x 1/16"	1.03
19-0938	4" x 8" x 3/32"	1.11
19-1258	4" x 8" x 1/8"	1.19
19-1878	4" x 8" x 3/16"	1.41
19-2508	4" x 8" x 1/4"	1.78

AMPHENOL "912-A" RODS — Supplied in lengths up to 48" but if definite length is not specified, 12" lengths will be supplied per number listing below. For lengths shorter than 12" there is a small cutting charge. Also available in diameters — 1⅛" to 4½" — 12" lengths or in lengths up to 48", Prices on request.

Number	Diameter	List Price Per Foot
19R125	1/8"	$ .15
19R187	3/16"	.20
19R250	1/4"	.40
19R312	5/16"	.43
19R375	3/8"	.45
19R500	1/2"	.80
19R625	5/8"	1.25
19R750	3/4"	1.65
19R875	7/8"	2.40
19R1000	1"	3.10

AMPHENOL "912-A" TUBES — Tolerances maintained suitable for radio coil form and electronic applications — supplied in 12" lengths in various diameters and per number listing below and also available in lengths up to 48".

Number	Overall Diameter	Wall Thickness	List
19T1-062	3/16"	1/16"	$ .08
19T2-062	1/4"	1/16"	.12
19T3-062	5/16"	1/16"	.16
19T4-062	3/8"	1/16"	.18
19T5-062	1/2"	1/16"	.23
19T6-062	5/8"	1/16"	.32
19T7-062	3/4"	1/16"	.38
19T8-062	1"	1/16"	.52

AMPHENOL "912-B" ACRYLIC SHEET STOCK — Supplied in standard sheets, 12" x 16" per number listing below 1/16" to ½" thickness. No additional charge is made for quarter or half sheets. Also available in sheets as large as 20" x 25".

Number	Size	List
65-062	1/16"	$ 4.00
65-125	1/8"	8.00
65-187	3/16"	12.00
65-250	1/4"	16.00
65-375	3/8"	24.00
65-500	1/2"	32.00

AMPHENOL "912-B" ACRYLIC RODS — Supplied in 12" lengths — ¼" to 1" diameter per number listing below, unless a definite length is specified. Can be supplied in lengths up to 48". Also available in diameters — 1⅛" to 2" in 12" lengths and up to 48" length if specified. Price on request.

Number	Diameter	List
65R250	1/4"	$ .40
65R375	3/8"	.45
65R500	1/2"	.80
65R625	5/8"	1.25
65R750	3/4"	1.65
65R875	7/8"	2.40
65R1000	1"	3.10

AMPHENOL "912-B" ACRYLIC TUBING — Supplied in 12" lengths diameters 1½" to 3" per number listing below or in continuous lengths up to 48" if specified. Also available in 12" lengths and in continuous lengths up to 48" if specified in diameters from 2¼" to 3", Prices on request. No cutting charge for lengths exceeding 12".

Number	Overall Diameter	Wall Thickness	List
65T1-125	1½"	1/8"	$2.40
65T1-187	1½"	3/16"	3.55
65T2-125	1¾"	1/8"	2.85
65T2-187	1¾"	3/16"	4.10
65T2-250	1¾"	1/4"	5.20
65T3-125	2"	1/8"	3.20
65T3-187	2"	3/16"	4.75
65T3-250	2"	1/4"	6.30

AMPHENOL "912-B" ACRYLIC CUT STRIPS — Recommended for making most types of low-loss insulator — trimmer bases, terminal strips, bushings, open wire transmission line spreaders, mountings for binding posts and pin jacks, coil supports, etc. Supplied in 12" lengths per number listing below and also available in lengths up to 24".

Number	Width	Thickness	List
65TS1-250	1/4"	1/16"	$ .26
65TS1-500	1/2"	1/16"	.35
65TS1-750	3/4"	1/16"	.42
65TS1-1000	1"	1/16"	.52
65TS2-250	1/4"	1/8"	.38
65TS2-500	1/2"	1/8"	.57
65TS2-750	3/4"	1/8"	.71
65TS2-1000	1"	1/8"	.90
65TS3-250	1/4"	3/16"	.57
65TS3-500	1/2"	3/16"	.84
65TS3-750	3/4"	3/16"	1.05
65TS3-1000	1"	3/16"	1.34
65TS4-250	1/4"	1/4"	.72
65TS4-500	1/2"	1/4"	1.08
65TS4-750	3/4"	1/4"	1.36
65TS4-1000	1"	1/4"	1.75
65TS6-250	1/4"	3/8"	1.06
65TS6-500	1/2"	3/8"	1.60
65TS6-750	3/4"	3/8"	2.00
65TS6-1000	1"	3/8"	2.60
65TS8-250	1/4"	1/2"	1.37
65TS8-500	1/2"	1/2"	2.10
65TS8-750	3/4"	1/2"	2.68
65TS8-1000	1"	1/2"	3.45

AMPHENOL "9746" FLEXIBLE SYNTHETIC TUBING — of clear vinyl, small sizes may be used as "spaghetti" and the larger sizes provide the newest type all-purpose conduit. Resists tearing and abrasion, but may be cut. Very flexible and when stretched or flexed, readily returns to original form.

Number	A.S.T.M. Size	Nominal I.D.	Wall Thickness	List
9746-034	20	.034"	.016"	$22.22 M ft.
9746-038	19	.038"	.016"	22.22
9746-042	18	.042"	.016"	22.22
9746-047	17	.047"	.016"	22.22
9746-053	16	.053"	.016"	23.15
9746-059	15	.059"	.016"	23.15
9746-066	14	.066"	.016"	25.00
9746-076	13	.076"	.016"	25.00
9746-085	12	.085"	.016"	28.70
9746-095	11	.095"	.016"	28.70
9746-106	10	.106"	.016"	35.18
9746-118	9	.118"	.016"	37.96
9746-133	8	.133"	.016"	40.74
9476-148	7	.148"	.016"	44.44
9746-166	6	.166"	.016"	46.30
9746-2	1/8	1/8"	.030"	91.48
9746-3	*3/16	3/16"	.040"	148.30
9746-4	*1/4	1/4"	.040"	171.88
9746-6	*3/8	3/8"	.060"	.51 ea. ft.
9746-8	*1/2	1/2"	.083"	.68
9746-10	*5/8	5/8"	.083"	.85
9746-12	*3/4	3/4"	.083"	.96
9746-14	7/8	7/8"	.083"	1.11
9746-16	*1	1"	.083"	1.33

* Ferrules available for these sizes.

FERRULES and FERRULE CRIMPING MACHINE
for use with Synthetic Tubing.

Standard one-step and two-step ferrules are available for synthetic tubing as indicated by asterisk. Fine construction for durability and easy application. There is also available a special ferruling machine for attaching these ferrules on a production basis.

Data and Prices upon Request.

AMPHENOL *Builds to the Future of* **ELECTRONICS**

CABLES • CONNECTORS • SOCKETS
PLASTICS • PLUGS

AMPHENOL

A — PLUG-IN COIL FORMS — Amphenol "912-A" polystyrene superior coil forms. Prong spacing fits standard tube sockets. Diameter of coil 1¼"; length of body 2¼". Impregnate wound coils with Liquid "912-A".

24-4P — 4-Prong	**50c list**
24-5P — 5-Prong	**55c list**
24-6P — 6-Prong	**60c list**

B — MINIATURE PLUG-IN TYPES — Small plug-in coil forms of Amphenol "912-A" polystyrene. Only ¾" in diameter. For transceivers, low-power transmitters and receivers for UHF. For use with 54-5H and 54-6H Miniature sockets listed on socket page.

24-5H — 5-Prong	**40c list**
24-6H — 6-Prong	**40c list**

C — MINIATURE COIL FORM — Of Amphenol "912-A" polystyrene. Raised hole in center of base for self-tapping screw. ¾" O.D., 1 13/16" long.

24 — Coil Form	**15c list**

D — COMPLETE UNIVERSAL INSULATOR — Of Amphenol "912-A" polystyrene with fittings, binding screws and soldering lugs. Over-all height of insulator is 3⅛". With assembled hardware, 4". Mounting holes on 1½" centers.

66-60	**$1.00 list**

E — UNIVERSAL INSULATOR "D" AS STAND-OFF — FEED-THRU — LEAD-IN — Section construction for assembling insulators below or above surface. With additional insulating tubes, used as aerial lead-in thru walls for antenna feeders.

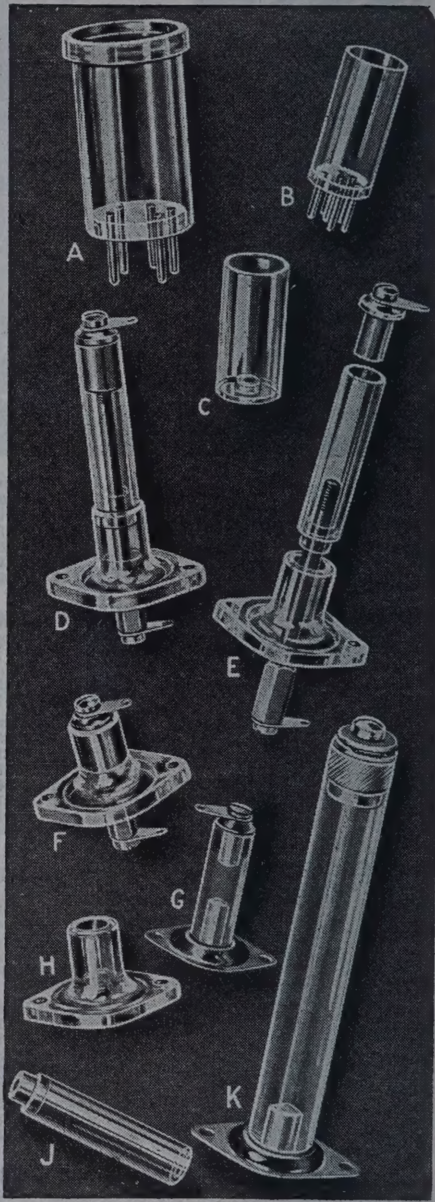
UNIVERSAL INSULATOR HARDWARE AND PARTS	**List**
66-167 — Center Rod ⅝" long, for stub insulator	**15c**
66-168 — Center Rod 2⅝" long, for standard insulator with 1 tube	**18c**
66-169 — Center Rod 4⅝" long, for insulator with 2 tubes	**20c**
66-170 — Center Rod 6⅝" long, for insulator with 3 tubes	**25c**
66-165 — Top Brass Bushing with screw and solder-lug	**20c**
66-166 — Bottom Hex. Fitting with screw and solder-lug	**15c**
66-60T — **J** — Insulator Tube as described above can be fitted together and cemented with Liquid "912-A" as feed-thru for H.F. and high voltage lines and as forms for R.F., Ant., and I.F. coils. Over-all length 2¼", diameter is ½" for 2" of the length and ⅜" for the remaining ¼". Has ¼" hole thru center	**25c**
66-60B — **H** — Insulator Base (Bushing) — Versatile type of feed-thru bushing for H.F. or high voltages. Used with tubes "J" and hardware above for assembling many types of insulators. Over-all length 1"	**25c**

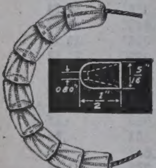
F — STUB INSULATOR — Similar to "D" No. 66-60 but length of insulator is only 1". For mounting coils, condensers, and other parts carrying H.F. or high voltage currents. Over-all length, 1⅞".

66-61	**80c**

G—K — LARGE AND SMALL STAND-OFF U.H.F. INSULATORS — Of Amphenol "912-A" polystyrene. For indoor or outdoor use. Non-hygroscopic. Large type ¾" in diameter. Small type ½" in diameter. Wire held in place by screw or solder-lug. Hex. screw for binding wire in place.

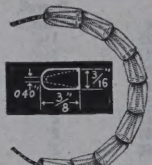
Number	**Length**	**Diameter**	**List**
66-1 — Small	1⅜"	½"	**50c**
66-2 — Small	2⅞"	½"	**60c**
66-3 — Large	2⅞"	¼"	**1.10**
66-4 — Large	4⅞"	¾"	**1.35**
66-5 — Large	6"	¾"	**1.50**





5/16" POLYSTYRENE BEADS — Widely used Amphenol insulating beads can be strung on wires up to No. 12 solid or No. 14 stranded. Hole diameter is .080"; length ½"; over-all diameter is 5/16". When stringing cables figure 28 beads to the foot.

73 — Box of 250 Beads .... **$2.50 per box list**



3/16" POLYSTYRENE INSULATING BEADS A small bead for use in small transmission lines on wires up to No. 22 stranded or No. 20 solid wires. Hole diameter, .040"; length ⅜"; over-all diameter 3/16". When stringing cables figure 35 beads to the foot.

73-1 — Box of 500 Beads .... **$4.50 per box list**

TWO-WIRE POLYSTYRENE BEADS — A two hole bead for making balanced lines strung on wires up to No. 18 solid. Hole diameters, .050"; length, ½"; over-all diameter is 11/32". When stringing cables figure 27 beads to the foot.

73-2 — Box of 250 Beads .... **$3.25 per box list**

5/16" HIGH TEMPERATURE BEADS — Like No. 73 listed above but of mica-filled bakelite for use up to temperatures of 285° F.

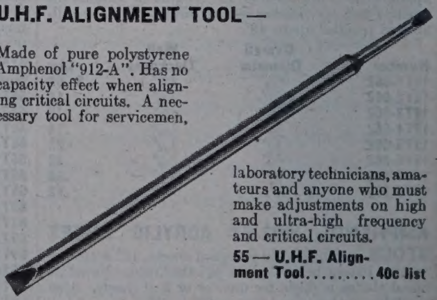
73-T — Box of 250 Beads .... **$5.00 per box list**

3/16" HIGH TEMPERATURE BEADS — Like No. 73-1 beads above but of mica-filled bakelite for use up to temperatures of 285° F.

73-1T — Box of 500 Beads .... **$8.50 per box list**

Amphenol "POLYWELD" is the proven efficient coil dope and plastic cement and sealer—completely listed on a following page.

U.H.F. ALIGNMENT TOOL —



Made of pure polystyrene Amphenol "912-A". Has no capacity effect when aligning critical circuits. A necessary tool for servicemen, laboratory technicians, amateurs and anyone who must make adjustments on high and ultra-high frequency and critical circuits.

55 — U.H.F. Alignment Tool .... **40c list**

CABLES
CONNECTORS
PLASTICS

AMERICAN PHENOLIC CORPORATION *Chicago 50* IN TORONTO AMPHENOL LTD.

HIGH FREQUENCY CABLES

AMPHENOL COAX AND TWINAX RG CABLES are fully approved and produced in accordance with Army-Navy specifications (JAN-C-17 July 1944). These specifications utilize the very fine dielectric properties of polyethylene, proven most efficient as a low-loss flexible mechanically stable dielectric. The outer jacket in most of Amphenol's approved types is a tough resistant vinyl protective, non-hygroscopic, and impervious to exposure of acids, alkalis, oils and gasoline. Polyethylene is also used as outer jacket for some of the types listed.

Polyethylene is processed in strict accordance with Bureau of Ships Specification RE-9172. It should be emphasized that unusually strict standards are applied to every processing operation of Amphenol's RG cable types. They are produced for "quality plus." Rigid laboratory tests and other process checking, plus Amphenol's "O.K." certification and notarized affidavit on every unit shipment, is final assurance of extra quality and dependability.

Also illustrated, but not approved for military use without specific authorization, are two of Amphenol's beaded type cables. This polystyrene and mica filled bakelite type of beaded cable is one of Amphenol's early developments in U.H.F. cables and for specific uses, is still in popular demand. The beads, too, may be ordered in bulk and are illustrated and priced on the Synthetics page.

Chart below represents the characteristics of all types of RG cable approved for manufacture by Amphenol. Further specifications and prices upon request.

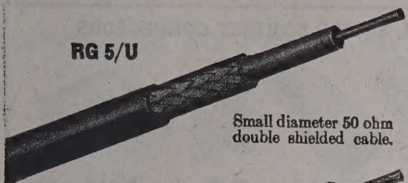
Approved R-G CABLES *with Characteristics and Dimensions*

A-N NO.	NOMINAL IMPEDENCE	NOMINAL MMFD.FT.	CONDUCTOR WIRE SIZE	O.D. OF DIELECTRIC	INNER SHIELD	OUTER SHIELD	JACKET		ARMOR MAX. O.D.
							MATERIAL	O.D.	
RG-5/U	53.5	28	16	.185	COPPER	COPPER	BLACK VINYL	.332	
RG-6/U	76.	20	21CW	.185	SILVER°	COPPER	GREY VINYL†	.332	
RG-7/U	97.5	12.5	19	.250*	COPPER		BLACK VINYL	.370	
RG-8/U	52.	29	7-21	.285	COPPER		BLACK VINYL	.405	
RG-9/U	51.	29	7-21 SILVER°	.280	SILVER°	COPPER	GREY VINYL†	.420	
RG-10/U	52.	29	7-21	.285.	COPPER		GREY VINYL†	.405	ARMOR .475
RG-11/U	75.	20	7-26 TINNED	.285	COPPER		BLACK VINYL	.405	
RG-12/U	75.	20	7-26 TINNED	.285	COPPER		GREY VINYL†	.405	ARMOR .475
RG-13/U	74.	20	7-26 TINNED	.280	COPPER	COPPER	BLACK VINYL	.420	
RG-14/U	52.	29	10	.370	COPPER	COPPER	GREY VINYL†	.545	
RG-15/U	76.	19	15CW	.370	COPPER	COPPER	BLACK VINYL	.545	
RG-17/U	52.	29	.188	.680	COPPER		GREY VINYL†	.870	
RG-18/U	52.	29	.188	.680	COPPER		GREY VINYL†	.870	ARMOR .945
RG-21/U	53.	29	16 NICHROME	.185	SILVER°	COPPER	GREY VINYL†	.332	
RG-22/U	95.	16	TWO 7-.0152	.285	TINNED		BLACK VINYL	.405	
RG-29/U	53.5	28	20	.116	TINNED		POLYETHYLENE‡	.184 MAX.	
RG-34/U	71.	21	7-21	.455	COPPER		BLACK VINYL	.625	
RG-42/U	76.	20	21 NICHROME	.196	SILVER°	COPPER	GREY VINYL†	.342	
RG-54A/U	58.	27	7-.0152	.178	TINNED		POLYETHYLENE‡	.250 MAX.	
RG-55/U	53.5	28	20	.116	TINNED	TINNED	POLYETHYLENE‡	.206 MAX.	
RG-57/U	95.	17	TWO 7-21	.472	TINNED		BLACK VINYL	.625	
RG-58/U	53.5	28	20	.116	TINNED		BLACK VINYL	.195	
RG-59/U	73.	22	22CW	.146	COPPER		BLACK VINYL	.242	
RG-62/U	93.	14	22CW	.146*	COPPER		BLACK VINYL	.242	
RG-71/U	93.	14	22CW	.146*	COPPER	TINNED	POLYETHYLENE‡	.250 MAX.	
RG-74/U	52.	29	10	.370	COPPER	COPPER	GREY VINYL†	.545	ARMOR .615

*Semi-Solid Dielectric †Non-Contaminating Vinyl Jacket ‡Polyethylene Jacket °Silver Coated Copper Wire

This chart dated Jan. 1, 1945 — Subject to changes and additions.

RG 5/U



Small diameter 50 ohm double shielded cable.

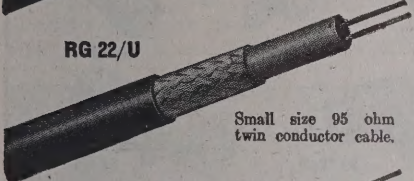
RG 8/U

Popular size 50 ohm single shielded cable.

RG 11/U

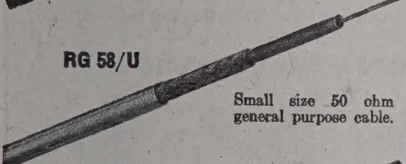
Medium size 70 ohm single shielded cable.

RG 22/U



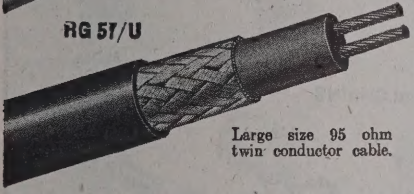
Small size 95 ohm twin conductor cable.

RG 58/U



Small size 50 ohm general purpose cable.

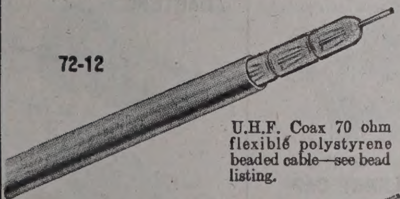
RG 57/U



Large size 95 ohm twin conductor cable.

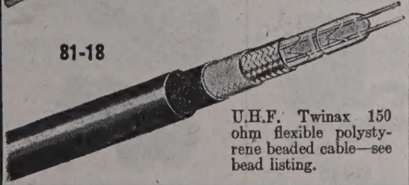
Amphenol also builds U.H.F. cables with polystyrene beads. These types are for non-military use or upon special authorized contracts.

72-12



U.H.F. Coax 70 ohm flexible polystyrene beaded cable—see bead listing.

81-18



U.H.F. Twinax 150 ohm flexible polystyrene beaded cable—see bead listing.

AMPHENOL *Builds to the Future of* **ELECTRONICS**

CABLES • CONNECTORS • SOCKETS
PLASTICS • PLUGS

AMPHENOL

LOW-LOSS 83 SERIES CONNECTORS — U.H.F.

This complete line of low-loss connectors and adapters for use with RG type cables serves all practical applications and they are made in both small and large sizes for coax and twinax cables. They are a very rugged construction, die cast zinc and machined brass shells, heavily silver plated. Low-loss inserts are of mica filled bakelite and polystyrene, and their construction provides for easy assembly and positive connection. Fully Army-Navy approved for use with U.H.F. cables.

Number	SMALL SINGLE CONTACT CONNECTORS	List
83-1SP	— **STRAIGHT PLUG** — With molded low-loss mica filled insert	$1.63
83-1SPN	— **3-PIECE PLUG** — Tapered back shell for .405" O.D. cables	2.00
83-776	— **3-PIECE PLUG** — Like 83-1SPN for RG-58/U and 59/U cables	2.07
83-1R	— **RECEPTACLE CHASSIS OR BOX TYPE** — Low-loss mica filled insert	1.78
83-1AP	— **ANGLE PLUG ADAPTER** — Polystyrene insert — pin and socket	2.44
83-1T	— **"T" CONNECTOR** — For 83-1R — factory wired	2.44
83-1J	— **JUNCTION** — For use with 83-1SP or 83-1SPN — double contact	1.33
83-1F	— **FEED THRU CONNECTOR** — Polystyrene insert — pressure tight	2.67

Number	SMALL TWIN CONTACT CONNECTORS	List
83-22SP	— **TWIN PLUG** — With low-loss mica filled dielectric insert	$1.74
83-22R	— **TWIN RECEPTACLE CHASSIS OR BOX TYPE** — For 83-22SP connector	1.37
83-22AP	— **TWIN ANGLE PLUG ADAPTER** — For straight 83-22SP plug	2.74
83-22J	— **TWIN JUNCTION** — Double end contact — for use with 83-22SP	1.96
83-22F	— **TWIN FEED THRU ADAPTER** — Pressure tight to 20 lbs. per sq. inch	2.63

Number	HOODS FOR SMALL CONNECTORS	List
83-1H	— **HOOD** — For RG cables 8/U, 10/U, 11/U, 12/U, 22/U, 63/U, 65/U	$ .44
83-1HP	— **HOOD** — For use with double shield braid wire — RG9/U, 13/U	.56
83-765	— **HOOD** — For effective shielding of smaller diameter cables	.70

Number	CAPS and CHAINS and ADAPTERS	List
83-1AC	— **CAP** — For 83-1R, 83-1RY, 83-1RTY and 83-22R connectors	$ .85
83-1BC	— **CAP** — For 83-1SP, 83-1SPN and 2 pole plug — 83-22SP connectors	1.00
83-168	— **ADAPTER** — For small cable — RG59/U, 83-1SP connector	.67
83-185	— **ADAPTER** — For small cable — RG-58/U, use with 83-1SP connector	.67

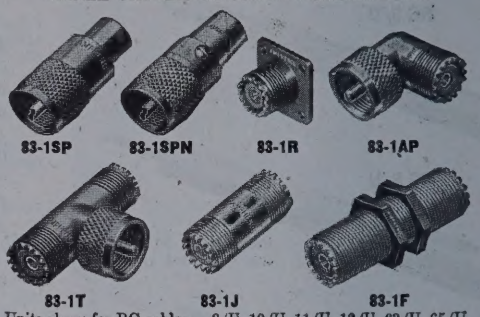
Number	LARGE SINGLE CONTACT CONNECTORS	List
83-21SP	— **PLUG** — With low-loss mica filled insert and rubber gasket	$3.78
83-21R	— **RECEPTACLE** — With two piece low-loss mica filled insert	1.56
83-21AP	— **ANGLE PLUG ADAPTER** — With waterproofing rubber gasket	2.89
83-21J	— **JUNCTION** — Polystyrene insert — waterproof — dust tight	On Request

Number	LARGE TWIN CONTACT CONNECTORS	List
83-2SP	— **TWIN PLUG** — Low-loss mica filled insert — waterproofing gasket	$3.82
83-2R	— **TWIN RECEPTACLE** — One piece flange — low-loss mica filled insert	2.63
83-2AP	— **TWIN ANGLE PLUG ADAPTER** — Polystyrene insert — used with 83-2SP	3.44
83-2J	— **TWIN JUNCTION** — For water and dirt tight connection to 83-2SP	2.67

Number	LARGE HOOD and LARGE CAP	List
83-2H	— **HOOD** — For effective shielding, used with 83-2R and 83-21R receptacles	$ .48
83-2AC	— **CAP** — For sealing large 83-2R and 83-21R	1.11

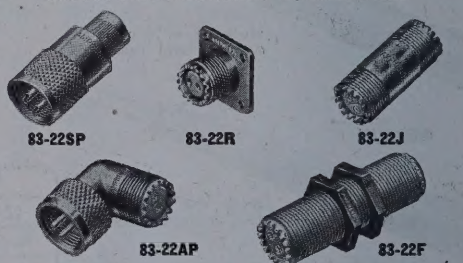
Number	BRITISH TYPE CONNECTORS	List
83-1M	— **ADAPTER** — 83-1SP — SO-153 (110H 585) to 83-1R — PL-P173 (110H 584)	$3.63
83-764	— **ADAPTER** — 83-1SP — 10H 528 to 83-1R — 10H 529, 10H 701, 10H 702	3.52
83-1D	— **ADAPTER** — SO-153 (110H 585) — 83-1R to PL-P173 (110H 584) — 83-1SP	4.44

SMALL SINGLE CONTACT CONNECTORS



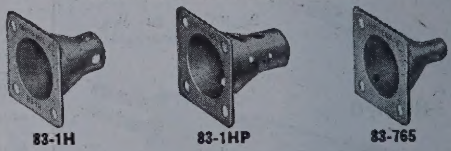
Units above for RG cables — 8/U, 10/U, 11/U, 12/U, 63/U, 65/U — and 58/U, 59/U using 83-168 and 83-185 with 83-1SP.

SMALL TWIN CONTACT CONNECTORS

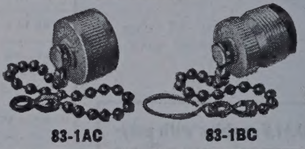


Units above for twinax cable — RG-22/U or any twin conductor cable of approximate .405" O.D.

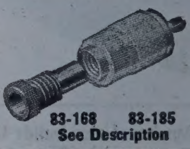
HOOD for SMALL CONNECTORS



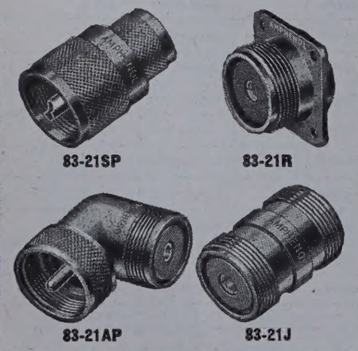
CAPS and CHAINS



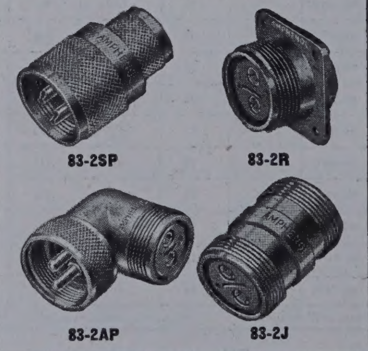
ADAPTER



LARGE SINGLE CONTACT CONNECTORS



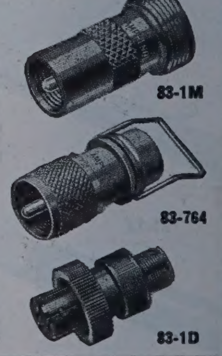
LARGE TWIN CONTACT CONNECTORS



LARGE HOOD

LARGE CAP

BRITISH TYPE ADAPTERS



Essential Quality Parts for the **RADIO-ELECTRONIC** *Industry*

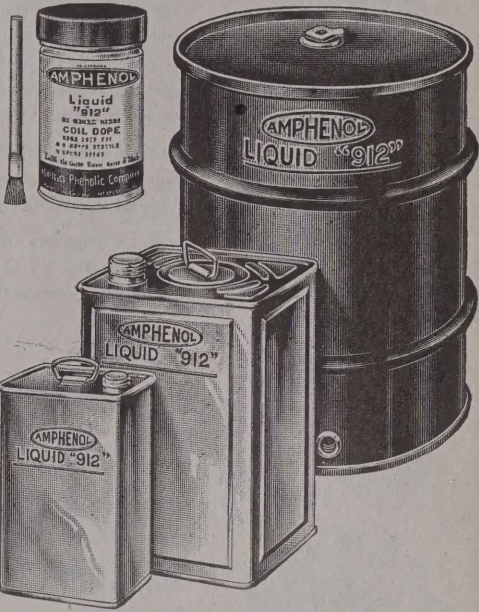
AMERICAN PHENOLIC CORPORATION
Chicago 50, Illinois
IN TORONTO • AMPHENOL LIMITED

Depend upon AMPHENOL *Quality*

AMPHENOL POLYWELD "912" (Coil Dope) FOR R.F.-U.H.F & V.H.F. APPLICATIONS

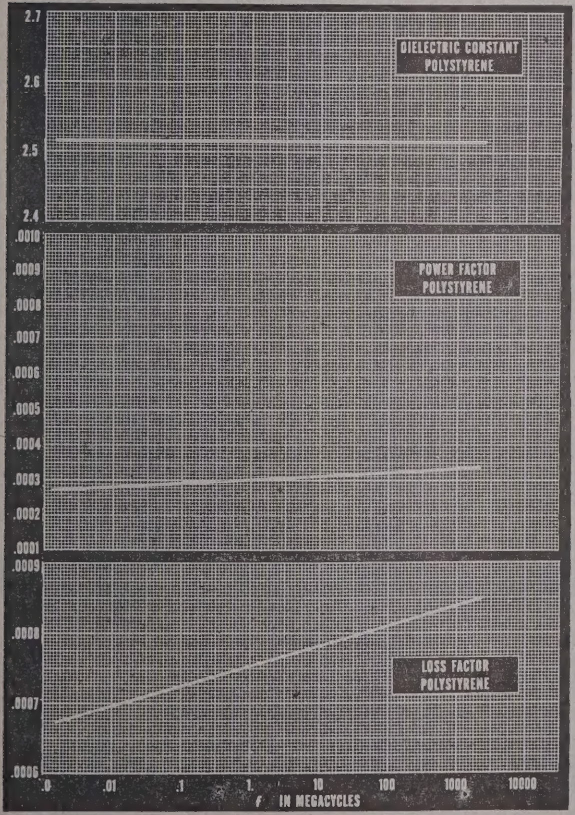
Amphenol POLYWELD "912" is pure liquid Polystyrene. It is designed for "doping," coating, impregnating and sealing in most Radio Frequency applications in the *Ultra-High* and *Very-High* frequency ranges.

POLYWELD is moisture-repellent because it is non-hygroscopic and will not normally support fungus growth. It may therefore be used where these conditions are encountered with a resultant improvement in the performance of radio equipment.



FAST-DRYING • STRONG-ADHERING • LOW-LOSS • UNIFORM IN APPLICATION

Wherever critical components (coils, coil forms, capacitors, ceramics, bakelite, connectors, etc.) must be coated or sealed, Amphenol POLYWELD "912" can be accepted as the standard to obtain high dielectric functioning together with moisture-repellent qualities which will give excellent service within the temperature range of –70° F. to 160° F. In addition, the low power factor of POLYWELD "912" is a distinct asset wherever it is used in radio frequency circuits.



POLYWELD "912" when used in conjunction with "912-A" Polystyrene products, and ACRYWELD "901" with "912-B" Acrylic products (being specially designed for use with these materials), will actually "weld" the parts together so as to create a homogeneous unit.

Will Not Harm Silk, Celanese, Enamel or Cotton Coverings

POLYWELD "912" has high density and a relatively heavy body with low viscosity which creates a substance easy to apply in both thin and thick coatings. Usually only a thin coating is required. It is heavily bodied and may be diluted 30 to 40% with No. 916 Thinner, thus making the use of POLYWELD extremely economical. It has high resistance and minimum surface leakage at *Ultra-High* and *Very-High* R.F. frequencies and can be used for almost all radio frequency applications. Its high potential breakdown makes it substantially puncture-proof while its unusual flexibility develops an ideal material for use in high-voltage R.F. circuits.

The use of POLYWELD "912" will not affect the electrical characteristics of coils within most frequency ranges.

AMPHENOL POLYWELD "912" (Liquid Coil Dope) and AMPHENOL ACRYWELD "901" CEMENTS & THINNERS

Non-Returnable Containers—Net Wt. per Gal. 7.85 Lbs.—Gross Wt.

1-Gal. Can: 8.75 Lbs.—5-Gal. Can: 41.75 Lbs.—30-Gal. Drum: 265 Lbs.

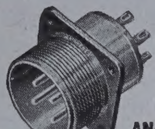
Number		List Price
53-912-2	2-oz. Bottle Polyweld	$ .50
53-912-4	4-oz. Bottle Polyweld	.65
53-912-P	Pint Container Polyweld	2.25
53-912-Q	Quart Container Polyweld	4.00
53-912-G	1-Gallon Can Polyweld	13.35
53-912-5G	5-Gallon Drum Polyweld ....per gal.	12.26
53-912-30G	30-Gallon Drum Polyweld ....per gal.	11.31
53-916-2T	2-oz. Bottle Thinner	.25
53-916-GT	1-Gallon Can Thinner	2.00

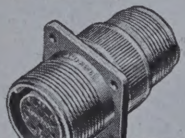
* For spigot use.

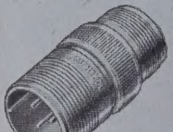
Add "901" in place of "912" and "916" in the above numbers for ACRYWELD "901" Cement and ACRYWELD Cement Thinner for quantities indicated at same list prices.

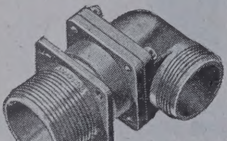
Essential Quality Parts for the **RADIO-ELECTRONIC** *Industry*

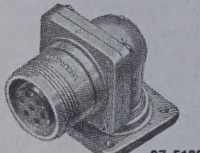
RECEPTACLES with external threads


AN-3102

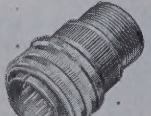

AN-3100

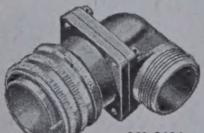

AN-3101

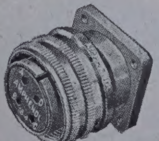

97-5107


97-5109

PLUGS with coupling ring


AN-3106


AN-3108


97-5105

"AN" and "97" CONNECTORS

Amphenol electrical connectors provide a means of quickly connecting or disconnecting one or many electrical circuits in aircraft, marine and other mechanized equipment where dependable weather-proof and vibration-proof service is required. All of the (AN) types are built to Army-Navy specifications. The Amphenol 97 Series connectors were developed for special applications and are built under the same general specifications, designed primarily to supplement the standard AN types.

The eight shell types shown in the left column are representative of the most popular types altho Amphenol builds these same connectors and others to special requirements of weather-proofing, pressurizing, tropicalization — all in accordance with the high quality specifications of the Army and Navy.

Amphenol connectors are produced in a great variety of combinations of shells and inserts, dielectric materials and finishes and it will be found advisable to follow recommended procedure in ordering. To clarify specification, we break down a typical item order number explaining the reference of each digit or letter.

TYPICAL NUMBER

AN 3100 - 16 - 11 PY (101 - 8M)

AN or 97. The "AN" prefix applies to all units which have been assigned an official Army-Navy part number in the prevailing "AN" specification. The "97" prefix is used on all Amphenol items manufactured in accordance with Army-Navy specifications but not yet assigned official part numbers.

3100. This number designates the shell type with no relation to the insert. The eight basic shell types are shown at the left. Angle receptacle or plug may be had in split or solid shell. Designation is explained under type 101 below.

16. This dash number performs a double function. Coupled with the shell style designation — in this case AN3100 — it indicates the shell style and size. That is, AN3100-16 indicates that a receptacle shell in size 16 is required.

11P. As a second function, the above dash number "16" when coupled with the number immediately following — in this case 11PY — indicates the contact layout required. The letter "P" in this number indicates a pin (male) insert and the letter "S" indicates a socket (female) type insert. See copy and illustrations at bottom of page for detailed clarification.

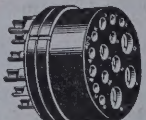
Y. This letter designation after the standard insert is one of several suffix letters ordinarily employed to specify other than standard dielectric material.

101. Refers to the style shell. There are many variables in the complete Amphenol line, but in this condensation, use a designation here only when ordering angle plugs in which case 101 specifies the solid shell angle housing and 102 the split shell angle housing.

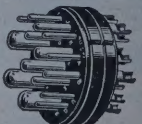
8M. This dash number indicates the type of finish required. Standard finish in accordance with specification is furnished unless otherwise specified.

A complete electrical connection requires a receptacle and a plug. Receptacles are usually mounted rigidly on the electrical equipment. Because of this they are designed with a solid base for mounting on a panel, bulkhead, wall, instrument, and so on. Plugs are usually used on the end of a flexible conduit or cable. The receptacle is always indicated as the shell with the external threads and the plug as the shell with the loose coupling ring. Standard shell plugs and receptacles are built to Army-Navy specifications. Receptacles for special applications are designed to accomplish various purposes such as preventing moisture entering instruments or equipment, pressure-proofing in high altitude flying, for use in hazardous locations, unusual space requirements, additional mounting holes for flush installations, vibration-proof for use on machines, instruments and other equipment, mounting on curved surface, light proof on aerial cameras and similar applications. Shell plugs are neat in appearance, simple and easy to assemble. Solid shell provides protection against moisture and dust. Split shells provide easy access for soldering, wire testing and are stocked in most sizes.

Complete listing of inserts with shells sizes on the following ten pages.


SOCKET INSERT (Female)

It should be clarified for the benefit of those ordering AN connectors for the first time that the classification receptacles and plugs have no relation to the insert classification of pin (male) and sockets (female). Either the receptacle or the plug can be specified with pin or socket inserts. All inserts listed on the following ten pages are interchangeable in any other shell types within the same size specification. Amphenol inserts comply in layout, contact sizes and use of dielectric materials with prevailing AN specifications.


PIN INSERT) (Male)

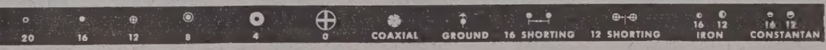
LISTING OF APPROVED SHELL AND INSERT COMBINATIONS

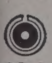
An insert is considered to be the contacts and the supporting dielectric element and as indicated may be ordered as plug (P) or socket (S) for use in any of the shell types. All Amphenol plug and socket inserts are interchangeable in the shells of same size with exception of 10SL-3, 10SL-4. Amphenol elements have heavier sections and are provided with barriers to further increase insulation between contacts. This listing consisting of ten pages is very comprehensive. For special requirements there are many more inserts available in alternate positioning and of the shorting and grounding types. The dielectric or insulation material is molded according to prevailing Army-Navy specifiicatons.

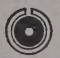
All Prices are List.

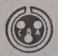
INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE					
											#0	#4	#8	#12	#16	#20
8S-1S	1.19	.89	1.37	1.96	1.22	1.56	2.07	2.48	1	1/16					1	
8S-1P	1.15	.89	1.37	2.00	1.19	1.56	2.04	2.48								
10S-2S	1.11	.81	1.19	2.00	1.15	1.33	2.00	2.44	1	3/32					1	
10S-2P	1.07	.81	1.15	2.07	1.11	1.33	2.00	2.41								
10SL-3S			1.67	2.00					3	1/16					3	
10SL-3P	1.30	1.07			1.33											
10SL-4S			1.33	2.07					2	1/16					2	
10SL-4P	1.19	.89			1.22											
12S-3S	1.33	.96	1.56	2.22	1.30	1.78	2.19	2.96	2	1/16					2	
12S-3P	1.26	.93	1.48	2.15	1.26	1.70	2.07	2.93								
12S-4S	1.26	.89	1.48	2.15	1.26	1.70	2.19	2.89	1	1/8					1	
12S-4P	1.15	.81	1.37	2.04	1.15	1.59	1.96	2.82								
12-5S	1.37	1.04	1.59	2.26	1.44	1.85	2.44	3.11	1	1/8				1		
12-5P	1.26	.93	1.52	2.11	1.30	1.74	2.37	2.96								
14S-1S	1.56	1.15	1.78	2.67	1.52	2.00	3.11	3.07	3	1/16					3	
14S-1P	1.56	1.15	1.74	2.67	1.52	1.96	2.59	3.07								
14S-2S	1.63	1.22	1.89	2.74	1.59	2.07	2.70	3.15	4	1/16					4	
14S-2P	1.78	1.37	2.04	2.89	1.74	1.59	2.85	3.30								
14S-4S	1.44	1.07	1.70	2.56	1.48	1.89	2.56	3.00	1	3/16					1	
14S-4P	1.22	.81	1.48	2.33	1.22	1.67	2.33	2.74								
14S-5S	1.78	1.37	2.04	3.19	1.74	1.59	2.85	3.30	5	1/16					5	
14S-5P	1.85	1.63	2.11	2.93	1.78	2.26	2.89	3.33								
14S-6S	1.93	1.63	2.30	3.15	1.85	2.48	3.15	3.59	6	1/32					6	
14S-6P	1.96	1.56	2.22	3.07	1.96	2.07	3.00	3.48								
14S-7S	1.67	1.37	2.15	3.00	1.93	2.37	3.00	3.48	3	1/16					3	
14S-7P	1.48	1.07	1.70	2.56	1.48	1.93	2.56	3.00								
14S-9S	1.56	1.15	1.78	2.67	1.56	2.00	2.67	3.11	2	3/32					2	
14S-9P	1.48	1.07	1.67	2.52	1.44	1.89	2.52	2.96								
14-3S	1.52	1.11	1.89	3.11	1.56	2.07	2.59	3.11	1	1/8			1			
14-3P	1.56	1.15	1.93	2.96	1.59	2.11	2.67	3.22								
16S-1S	1.96	1.67	2.41	3.30	2.15	2.78	3.56	4.44	7	1/16					7	
16S-1P	2.15	1.67	2.41	3.30	2.15	2.78	3.56	4.44								
16S-3S	1.37	.93	1.67	2.56	1 44	2.04	2.96	3.70	1	1/4					1	
16S-3P	1.37	.93	1.67	2.56	1.44	2.04	2.96	3.70								

CODE OF WIRE SIZES




8S-1


10S-2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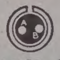

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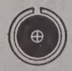
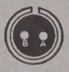
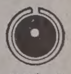
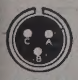

12-5

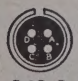


12S-3

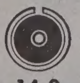

12S-4

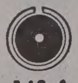


14S-1



14S-2


14-3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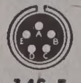
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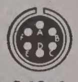
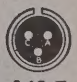
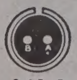
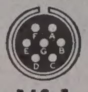

14S-6

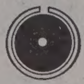


14S-7



14S-9


16S-1


16S-3

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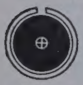
INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE					
											#0	#4	#8	#12	#16	#20
16S-4S	1.44	1.04	1.78	2.67	1.52	2.11	3.07	3.78	2	1/8					2	
16S-4P	1.44	1.04	1.74	2.67	1.52	2.11	3.07	3.78								
16S-5S	1.63	1.30	2.07	2.93	1.78	2.41	3.19	4.07	3	1/8					3	
16S-5P	1.63	1.19	1.93	2.82	1.67	2.30	3.22	3.96								
16S-6S	1.63	1.30	2.07	2.93	1.78	2.41	3.19	4.07	3	1/16					3	
16S-6P	1.59	1.15	1.89	2.78	1.63	2.26	3.19	3.93								
16S-8S	1.78	1.56	2.30	3.19	2.04	2.59	3.37	4.33	5	1/16					5	
16S-8P	1.96	1.44	2.15	3.07	1.85	2.48	3.48	4.19								
16-2S	1.70	1.26	2.04	2.67	1.74	2.37	3.26	4.04	1	3/16				1		
16-2P	1.56	1.11	1.85	2.67	1.59	2.22	3.08	3.89								
16-7S	2.00	1.56	1.96	3.11	2.04	2.67	3.59	4.33	3	1/16			1		2	
16-7P	1.78	1.74	2.11	2.93	1.89	2.48	3.37	4.15								
16-9S	2.04	1.67	2.44	3.22	2.15	2.78	3.67	4.41	4	1/16				2	2	
16-9P	1.93	1.52	2.26	3.04	2.00	2.59	3.52	4.30								
16-10S	1.96	1.59	2.33	3.15	2.07	2.70	3.59	4.37	3	1/16				3		
16-10P	1.70	1.30	2.04	2.89	1.78	2.37	3.33	4.07								
16-11S	1.78	1.37	2.11	2.93	1.89	2.44	3.37	4.15	2	1/16				2		
16-11P	1.70	1.30	2.04	2.85	1.78	2.37	3.33	4.07								
16-12S	2.00	1.56	2.30	3.11	2.04	2.67	3.56	4.33	1	3/32		1				
16-12P	1.78	1.33	2.07	2.89	1.85	2.44	3.33	4.11								
18-1S	2.74	2.15	2.93	3.89	2.85	3.41	4.52	5.15	10	1/16					10	
18-1P	3.00	2.70	3.63	4.59	3.52	3.96	5.22	5.67								
18-2S	2.56	1.52	3.19	3.48	2.33	2.78	4.04	4.52	3	1/16						
18-2P	2.26	1.19	2.41	3.15	1.96	2.44	3.70	4.19								
18-3S	2.37	1.30	2.74	3.33	2.11	2.56	4.19	4.30	2	1/8				2		
18-3P	2.04	1.26	2.22	3.19	2.07	2.48	3.74	4.22								
18-4S	2.15	1.37	2.33	3.30	2.19	2.67	3.85	4.37	4	1/8					4	
18-4P	2.30	1.70	2.44	3.41	2.35	2.96	4.00	4.70								
18-5S	2.44	1.37	2.85	3.33	2.19	2.67	3.89	4.37	3	1/8				2	1	
18-5P	2.22	1.48	2.41	3.33	2.30	2.74	3.96	4.48								
18-6S	2.44	1.37	2.67	3.30	2.19	2.67	3.93	4.37	1	1/8		1				
18-6P	2.04	1.30	2.22	3.19	2.11	2.56	3.78	4.30								
18-7S	2.52	1.52	2.70	3.48	2.33	2.78	4.04	4.30	1	1/4			1			
18-7P	2.15	1.56	2.37	3.41	2.01	2.59	3.67	4.37								
18-8S	2.85	2.22	3.00	4.00	3.00	3.48	4.67	5.19	8	1/16				1	7	
18-8P	2.89	2.07	3.04	4.00	2.85	3.33	4.63	5.11								
18-9S	3.00	2.56	3.67	3.93	2.67	3.22	4.48	4.93	7	1/32				2	5	
18-9P	3.07	2.19	3.26	4.19	3.15	3.48	4.70	5.22								
18-10S	3.00	1.96	3.63	3.93	2.78	3.22	4.48	4.93	4	3/32				4		
18-10P	2.67	1.63	2.85	3.56	2.44	2.89	4.15	4.59								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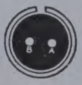
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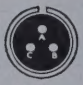
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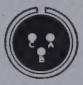
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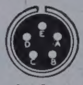
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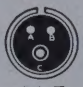
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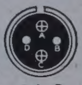
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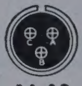
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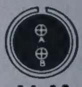
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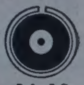
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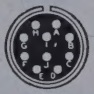
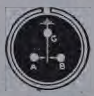

18-1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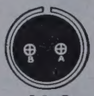
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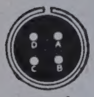
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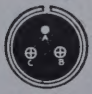
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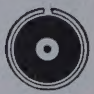
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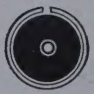
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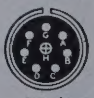
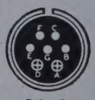

18-8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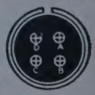
18-10

(continued on next page)

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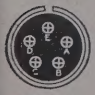
(continued from preceding page)

INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE					
											#0	#4	#8	#12	#16	#20
18-11S	3.15	2.07	3.74	4.04	2.85	3.33	4.59	5.04	5	1/16				5		
18-11P	2.82	1.74	3.07	3.70	2.56	3.00	4.22	4.74								
18-12S	2.33	2.00	2.52	3.48	2.43	3.04	4.09	4.78	6	1/16					6	
18-12P	2.78	1.78	2.96	3.74	2.59	3.07	4.33	4.78								
18-13S	3.85	2.96	4.07	5.15	3.70	4.19	5.39	5.96	4	1/16			1	3		
18-13P	2.78	1.93	2.96	3.89	2.59	3.19	4.27	4.93								
18-14S	2.89	1.89	3.07	3.82	2.70	3.15	4.41	4.85	2	1/16		1			1	
18-14P	2.52	1.74	2.70	3.74	2.37	2.96	4.02	4.70								
18-16S	2.30	1.52	2.44	3.41	2.33	2.78	4.04	4.48	1	5/16				1		
18-16P	2.15	1.37	2.33	3.30	2.22	2.70	3.85	4.44								
18-20S	2.26	1.63	2.41	3.37	2.33	2.89	3.96	4.59	5	1/8					5	
18-20P	2.63	1.78	2.82	3.74	2.59	3.07	4.30	4.78								
18-22S	2.63	1.56	3.15	3.52	2.37	2.82	4.04	4.48	3	5/32					3	
18-22P	2.30	1.22	2.85	3.19	2.04	2.48	3.70	4.19								
18-29S	2.70	1.63	3.30	3.59	2.44	2.89	4.15	4.59	5	1/16					5	
18-29P	2.85	1.78	3.44	3.74	2.59	3.04	4.33	4.82								
20-1S	3.33	2.70	3.56	4.00	3.52	4.11	5.19	6.41	14	1/16					14	
20-1P	4.22	3.37	4.44	4.48	4.74	4.82	5.96	6.70								
20-2S	2.44	1.44	3.04	3.19	2.52	2.89	4.00	5.15	1	5/32		1				
20-2P	2.33	1.37	2.59	3.15	2.48	2.85	3.96	5.15								
20-3S	2.78	1.74	3.67	3.52	2.82	3.22	4.30	5.44	3	1/8				3		
20-3P	2.56	1.52	2.85	3.63	2.67	3.04	4.11	5.26								
20-4S	2.85	1.78	3.74	3.93	2.89	3.26	4.37	5.56	4	1/8				4		
20-4P	2.56	2.19	2.78	3.74	2.78	3.15	4.22	5.37								
20-5S	2.30	1.26	2.59	3.30	2.37	2.74	3.82	4.96	2	3/16					2	
20-5P	2.15	1.07	2.67	3.15	2.19	2.56	3.67	4.85								
20-6S	2.44	1.56	2.70	3.30	2.59	2.96	3.96	5.26	3	3/16					3	
20-6P	2.44	1.37	2.70	3.15	2.48	2.85	3.96	4.89								
20-7S	2.63	2.15	2.85	3.80	3.11	3.63	4.41	5.85	8	1/8					4	
20-7P	3.26	2.44	3.48	4.19	3.52	3.89	4.96	6.15		1/16					4	
20-8S	3.30	2.26	4.00	4.00	3.33	3.70	4.82	6.00	6	1/16			2		4	
20-8P	3.15	2.11	3.67	3.89	3.22	3.56	4.70	5.82								
20-9S	3.22	2.19	3.59	3.96	3.30	3.70	4.78	5.93	8	1/8				1	7	
20-9P	3.11	2.07	3.48	3.82	3.15	3.56	4.59	5.78								
20-11S	3.56	3.15	3.82	4.85	3.74	4.30	5.07	6.82	13	1/32					3	10
20-11P	3.56	2.52	4.37	4.26	3.63	4.00	5.11	6.22								
20-12S	2.67	1.63	3.33	3.37	2.70	3.07	4.07	5.33	2	1/8		1			1	
20-12P	2.52	1.52	2.85	3.26	2.59	2.96	4.07	5.22								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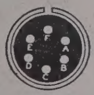
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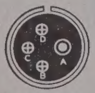
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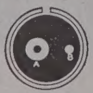
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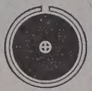
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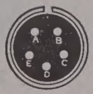
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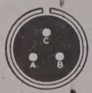
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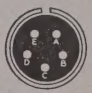
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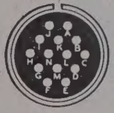
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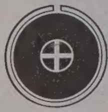
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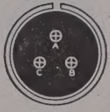
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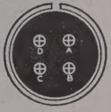
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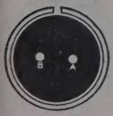
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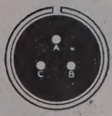
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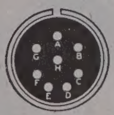
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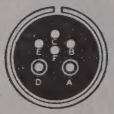
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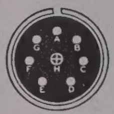
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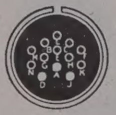
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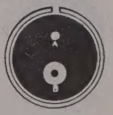
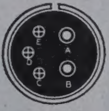

20-12

(continued on next page)

Essential Quality Parts for the RADIO-ELECTRONIC *Industry*

(continued from preceding page)

INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE					
											#0	#4	#8	#12	#16	#20
20-14S 20-14P	3.30 2.93	2.33 2.19	4.19 3.11	4.04 3.96	3.33 3.33	3.74 3.67	4.82 4.74	6.00 5.93	5	1/16			2	3		
20-15S 20-15P	3.41 2.96	2.41 1.96	4.33 3.67	4.15 3.70	3.52 3.07	3.89 3.41	4.93 4.52	6.11 5.67	7	1/8				7		
20-16S 20-16P	3.41 3.33	2.48 2.33	3.67 3.67	4.22 4.07	3.59 3.37	3.96 3.74	5.04 4.85	6.22 6.04	9	1/16				2	7	
20-17S 20-17P	3.33 3.15	2.33 2.11	4.22 3.44	4.07 3.89	3.41 3.22	3.78 3.59	4.89 4.70	6.07 5.85	6	1/16				5	1	
20-18S 20-18P	3.63 3.19	2.56 2.11	4.37 4.07	4.37 3.93	3.70 3.22	4.07 3.59	5.19 4.70	5.96 5.85	9	1/16				3	6	
20-19S 20-19P	3.15 2.93	2.11 2.04	4.04 3.16	3.89 3.78	3.19 3.11	3.56 3.52	4.63 4.44	5.82 5.74	3	1/16			3			
20-20S 20-20P	3.19 2.85	2.11 1.81	4.07 3.30	3.93 3.59	3.22 2.93	3.59 3.30	4.67 4.41	5.85 5.56	4	1/16		1		3		
20-21S 20-21P	3.44 3.33	2.44 2.33	3.70 4.07	4.22 4.07	3.56 3.33	4.00 3.78	4.96 4.89	6.19 6.04	9	1/16				1	8	
20-22S 20-22P	3.33 3.19	2.33 2.15	4.07 3.41	4.07 3.93	3.41 3.26	3.78 3.63	4.89 4.74	6.04 5.85	6	1/16			3		3	
20-23S 20-23P	2.78 2.52	1.74 1.52	3.48 2.85	3.52 3.26	2.85 2.59	3.22 2.96	4.30 4.07	5.44 5.22	2	3/32			2			
20-24S 20-24P	2.93 2.78	1.93 1.74	3.78 3.26	3.67 3.52	3.00 2.85	3.37 3.22	4.48 4.30	5.26 5.44	4	3/32			2		2	
22-1S 22-1P	2.78 2.56	1.63 1.56	3.37 3.00	3.78 3.59	2.78 2.59	3.26 3.11	4.37 4.19	5.52 5.30	2	1/8			2			
22-2S 22-2P	3.22 2.96	2.15 1.93	3.93 3.30	4.22 4.00	3.26 3.00	3.70 3.52	4.82 4.48	5.96 5.70	3	1/8			3			
22-3S 22-3P	2.78 2.52	1.74 1.48	3.59 2.96	3.78 3.56	2.82 2.52	3.30 3.00	4.41 4.11	5.52 5.26	2	1/8		1			1	
22-4S 22-4P	3.00 2.78	2.00 1.89	3.96 3.07	4.04 3.96	3.07 2.93	3.56 3.41	4.63 4.52	5.74 5.67	4	1/8			2	2		
22-5S 22-5P	2.96 2.78	1.93 1.70	3.52 3.26	4.00 3.82	2.96 2.78	3.48 3.26	4.56 4.37	5.70 5.52	6	1/8				2	4	
22-6S 22-6P	2.85 2.67	1.78 1.59	3.78 3.22	3.89 2.67	2.89 2.67	3.37 3.15	4.48 4.22	5.59 5.37	3	1/8			2		1	
22-7S 22-7P	2.89 2.56	1.85 1.52	3.56 3.00	3.93 3.59	2.89 2.56	3.37 3.07	4.48 4.15	5.63 5.26	1	3/16	1					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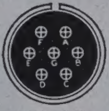
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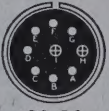
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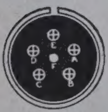
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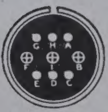
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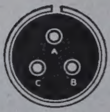
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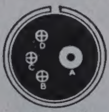
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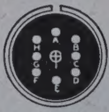
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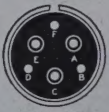
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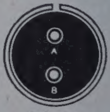
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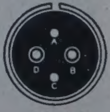
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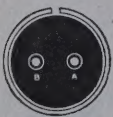
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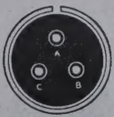
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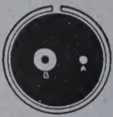
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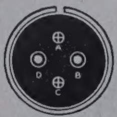
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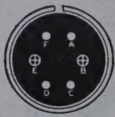
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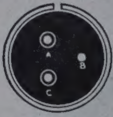
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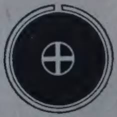
22-7

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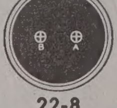
INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE					
											#0	#4	#8	#12	#16	#20
22-8S	2.78	1.89	3.11	3.93	2.93	3.41	4.52	5.63	2	3/16				2		
22-8P	2.22	1.26	2.56	3.33	2.33	2.96	3.93	5.04								
22-9S	2.78	1.70	3.70	3.78	2.82	3.30	3.96	5.52	3	3/16				3		
22-9P	2.41	1.44	3.00	3.41	2.44	2.93	4.07	5.15								
22-10S	2.37	1.70	2.67	3.63	2.82	3.30	4.15	5.52	4	3/16					4	
22-10P	2.56	1.52	2.93	3.59	2.59	3.11	4.19	5.30								
22-11S	2.59	1.59	3.07	3.63	2.67	3.15	4.22	5.33	2	1/4					2	
22-11P	2.15	1.48	2.44	3.37	2.52	3.00	3.89	5.26								
22-12S	3.15	2.07	3.59	4.15	3.22	3.67	4.78	5.85	5	1/8			2		3	
22-12P	2.89	1.85	3.44	3.93	2.93	3.41	4.48	5.63								
22-13S	3.22	2.15	4.00	4.22	3.22	3.70	4.82	5.96	5	1/8				4	1	
22-13P	2.70	1.93	3.04	3.96	3.00	3.48	4.52	5.70								
22-14S	3.89	3.48	4.19	5.11	4.48	5.00	5.82	7.22	19	1/16					19	
22-14P	4.41	3.33	5.30	5.41	4.41	4.89	6.00	7.15								
22-15S	3.89	2.82	4.78	4.89	3.93	4.41	5.44	6.59	6	1/8 3/16				5	1	
22-15P	2.96	2.00	3.26	4.04	3.07	3.56	4.63	5.74								
22-16S	3.70	2.63	4.56	4.74	3.74	4.19	5.30	6.44	9	1/8				3	6	
22-16P	3.26	2.26	4.19	4.30	3.30	3.78	4.89	6.00								
22-17S	3.19	2.48	3.48	4.41	3.59	4.07	5.04	6.26	9	1/8				1	8	
22-17P	3.33	2.30	3.82	4.37	3.37	3.89	4.96	5.78								
22-18S	3.07	2.15	3.41	4.22	3.26	3.74	4.59	5.96	8	1/8					8	
22-18P	2.93	1.89	3.82	3.96	2.93	3.41	4.52	5.67								
22-19S	3.37	3.00	3.67	4.63	3.93	4.59	5.26	6.82	14	1/8					14	
22-19P	3.67	2.59	4.56	4.70	3.70	4.19	5.26	6.22								
22-20S	2.89	2.30	3.19	4.11	3.33	3.82	4.70	6.04	9	3/32					9	
22-20P	3.07	2.00	3.41	4.07	3.11	3.59	4.63	5.78								
22-21S	3.41	2.67	3.78	4.74	3.59	4.19	4.93	6.44	3	1/16	1				2	
22-21P	3.07	2.04	3.41	4.11	3.15	3.63	4.59	5.82								
22-22S	3.26	2.19	3.93	4.26	3.30	3.78	4.89	6.00	4	1/16			4			
22-22P	3.15	2.07	3.59	4.11	3.15	3.63	4.74	5.82								
22-23S	3.74	2.70	4.63	4.78	3.78	4.30	5.33	6.48	8	1/16				8		
22-23P	3.30	2.26	4.00	4.33	3.30	3.78	4.89	6.04								
22-24S	3.11	2.04	3.52	4.11	3.07	3.59	4.70	5.82	6	1/16				2		
22-24P	2.74	1.67	3.26	3.74	2.68	3.26	4.37	5.44		1/8 1/4					2 2	
22-25S	3.11	2.04	3.93	4.11	3.15	3.63	4.70	5.93	3	1/8	1				2	
22-25P	2.85	1.78	3.30	3.89	2.85	3.33	4.41	5.63								



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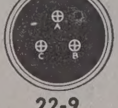

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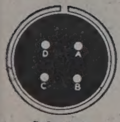

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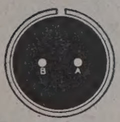

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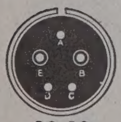

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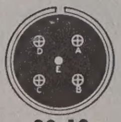

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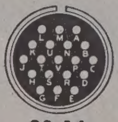

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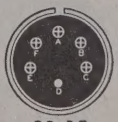
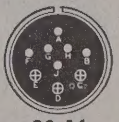


22-15



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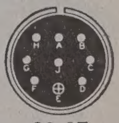

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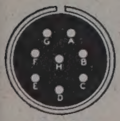

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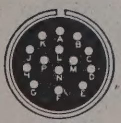

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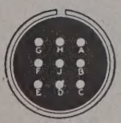

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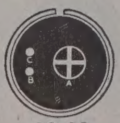

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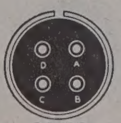
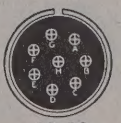


22-22



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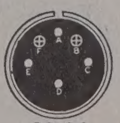

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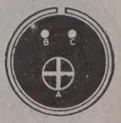

22-25

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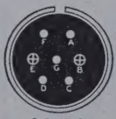
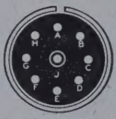
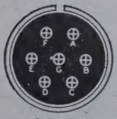
INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE					
											#0	#4	#8	#12	#16	#20
22-26S	3.37	2.33	3.59	4.37	3.37	3.89	4.96	6.07	7	1/8				2	5	
22-26P	3.15	2.11	3.56	4.15	3.19	3.67	4.73	5.85								
22-27S	3.67	2.78	4.00	4.82	3.82	4.37	5.41	6.52	9	1/8			1			
22-27P	3.22	2.48	3.56	4.44	3.63	4.07	5.07	6.26		3/32					8	
22-28S	3.41	2.37	4.33	4.44	3.41	3.96	5.00	6.15	7	3/32				7		
22-28P	2.85	1.78	3.74	3.89	2.89	3.37	4.44	5.59								
22-29S	3.59	2.56	4.04	4.59	3.63	4.11	5.22	6.33	7	1/16					6	
22-29P	3.37	2.33	4.07	4.37	3.37	3.89	4.96	6.11		1/8		1				
22-33S	2.96	2.33	3.30	4.33	3.15	3.81	4.48	6.07	7	1/16					3	
22-33P	3.15	2.11	3.85	4.15	3.19	3.67	4.78	5.85		5/32					4	
22-34S	3.11	2.04	3.67	4.11	3.15	3.63	4.70	5.82	5	1/8				3	2	
22-34P	2.85	1.89	3.22	3.96	2.96	3.48	4.37	5.67								
24-1S	3.33	2.00	3.96	4.19	3.26	3.93	5.26	6.56	2	1/8	1			1		
24-1P	2.78	1.93	3.41	4.11	3.00	3.89	4.48	6.52								
24-2S	3.67	2.30	4.22	4.48	3.59	4.22	5.74	6.89	7	1/8				7		
24-2P	3.07	1.93	3.63	4.11	3.22	3.89	5.07	6.52								
24-3S	3.22	2.26	3.78	4.41	3.52	4.30	5.26	6.82	7	5/32				2	5	
24-3P	2.85	1.96	3.37	4.15	2.85	3.89	4.82	6.52								
24-4S	3.48	2.30	4.22	4.48	3.59	4.19	5.44	6.85	4	1/8	1				3	
24-4P	3.04	1.93	3.63	4.11	3.19	3.82	4.70	6.48								
24-5S	3.52	3.30	4.04	5.00	4.07	5.15	5.56	7.67	16	1/16					16	
24-5P	4.30	2.93	4.89	5.15	4.22	4.85	6.37	7.48								
24-7S	4.11	3.52	4.67	5.59	4.78	5.41	6.22	8.11	16	1/16				2	14	
24-7P	4.56	3.22	5.19	5.41	4.52	5.15	6.67	7.82								
24-9S	3.70	3.00	4.33	5.22	3.93	4.93	5.41	7.52	2	1/16		2				
24-9P	2.89	1.85	3.48	4.04	3.07	3.74	4.56	6.44								
24-10S	4.15	2.82	4.78	5.15	4.11	4.74	6.26	7.41	7	1/16			7			
24-10P	4.07	2.74	4.70	4.93	4.04	4.63	5.85	7.30								
24-11S	4.52	3.19	5.11	5.37	4.44	5.11	6.59	7.74	9	1/16			3	6		
24-11P	3.67	2.67	4.26	4.85	3.96	4.59	5.78	7.26								
24-12S	3.78	3.56	4.33	5.26	4.37	5.41	5.85	7.96	5	1/16		2		3		
24-12P	3.48	2.30	4.07	4.48	3.59	4.19	5.19	6.85								
24-14S	3.74	2.41	4.37	4.59	3.70	4.37	5.85	7.00	3	3/32	1			2		
24-14P	3.00	2.04	3.59	4.22	3.19	3.96	4.67	6.59								
24-16S	3.96	2.59	4.56	4.82	3.89	4.52	6.04	7.19	7	1/8			1	3	3	
24-16P	3.15	2.11	3.67	4.33	3.41	4.04	5.19	6.74								



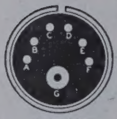
22-26



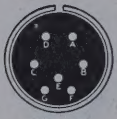
22-27



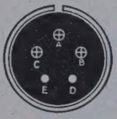
22-28



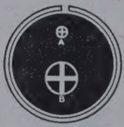
22-29



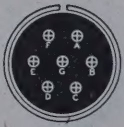
22-33



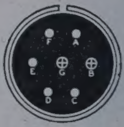
22-34



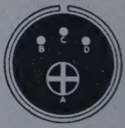
24-1



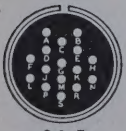
24-2



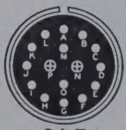
24-3



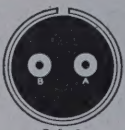
24-4



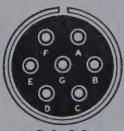
24-5



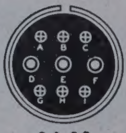
24-7



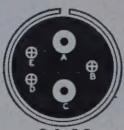
24-9



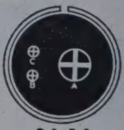
24-10



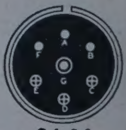
24-11



24-12



24-14



24-16

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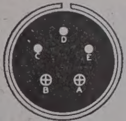
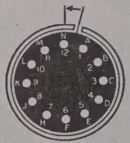
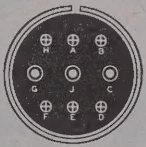
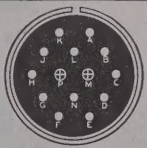
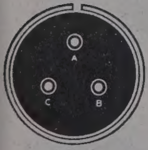
INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE #0	#4	#8	#12	#16	#20
24-17S	4.30	2.93	4.89	5.15	4.22	4.89	6.04	7.56	5	3/16				2	3	
24-17P	2.85	1.89	3.44	4.07	3.04	3.82	4.52	6.44								
24-19S	4.19	2.85	4.82	5.04	4.15	4.63	6.33	7.45	12	1/16					12	
24-19P	3.41	2.48	4.00	4.70	3.78	4.41	5.48	7.07								
28-1S	4.96	3.26	5.67	5.96	4.96	5.30	6.33	7.82	9	1/8			3	6		
28-1P	4.04	2.67	4.70	5.33	4.37	4.70	5.70	7.22								
28-2S	4.74	3.07	5.41	5.74	4.82	5.15	6.15	7.67	14	1/8				2	12	
28-2P	4.11	2.67	4.82	5.33	4.41	4.70	5.70	7.22								
28-3S	4.15	2.56	4.93	5.22	4.30	4.59	5.63	7.07	3	3/16			3			
28-3P	3.26	1.89	4.04	4.52	3.48	3.93	4.93	6.44								
28-4S	3.82	2.67	4.48	5.33	4.37	4.70	5.70	7.22	9	1/8 3/16				2	4 3	
28-4P	3.44	2.19	4.11	4.85	3.93	4.22	5.22	6.78								
28-5S	4.41	2.70	5.11	5.37	4.41	4.74	5.74	7.26	5	1/8		2		1	2	
28-5P	3.67	2.19	4.41	4.89	3.85	4.22	5.26	6.78								
28-6S	4.52	2.82	5.22	5.52	4.52	4.85	5.85	7.37	3	1/8		3				
28-6P	3.56	2.30	4.33	4.93	3.78	4.33	5.30	6.85								
28-7S	4.00	2.26	4.63	4.93	4.00	4.30	5.33	6.82	2	5/32		2				
28-7P	3.19	1.93	3.93	4.59	3.37	3.96	4.89	6.48								
28-8S	4.11	3.00	4.78	5.70	4.74	5.04	6.07	7.59	12	3/16 1/8				2	10	
28-8P	3.85	2.74	4.56	5.41	4.41	4.82	5.78	7.30								
28-9S	4.74	4.07	5.41	6.48	5.44	6.11	7.00	8.63	12	1/8				6	6	
28-9P	4.04	2.78	4.70	5.41	4.48	5.67	5.82	7.30								
28-10S	4.85	3.15	5.56	5.82	4.85	5.19	6.19	7.70	7	1/8		2	2	3		
28-10P	4.48	2.85	5.22	5.52	4.56	4.89	5.93	7.37								
28-11S	6.07	4.37	6.78	7.00	6.07	6.41	7.41	8.93	22	1/16				4	18	
28-11P	5.26	3.70	5.93	6.37	5.41	5.74	6.78	8.22								
28-12S	4.89	4.44	5.59	6.63	5.63	6.63	7.15	9.04	26	1/16					26	
28-12P	5.82	4.11	6.52	6.78	5.82	6.15	7.19	8.63								
28-15S	6.41	5.37	7.15	8.07	6.59	7.41	8.15	9.93	35	1/16					35	
28-15P	6.96	5.26	7.67	7.96	6.96	7.30	8.30	9.82								
28-16S	4.33	3.85	5.00	6.04	4.96	5.96	6.48	8.37	20	3/32					20	
28-16P	5.15	4.67	5.82	6.07	5.15	5.44	6.48	8.00								
28-17S	3.82	3.33	4.48	5.56	4.41	5.41	5.96	7.82	15	1/4 1/16					4 11	
28-17P	4.63	2.93	5.33	5.59	4.63	4.96	6.00	7.48								
28-18S	4.59	3.41	5.33	6.11	4.78	5.44	6.33	8.00	12	1/16 1/8 5/16					4 7 1	
28-18P	4.19	2.78	4.93	5.41	4.37	4.78	5.78	7.30								

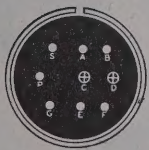

24-17

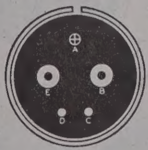

24-19

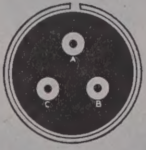

28-1

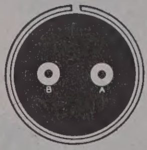

28-2

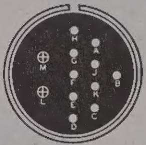

28-3

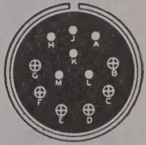

28-4

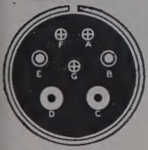

28-5

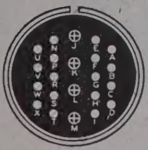

28-6

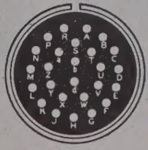

28-7

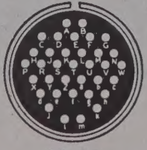

28-8


28-9


28-10


28-11


28-12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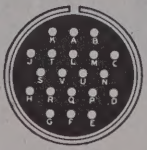
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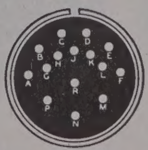
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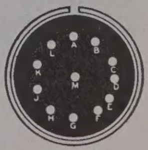
28-18

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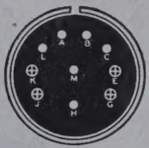
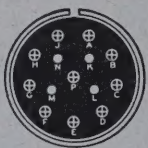
INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE #0	#4	#8	#12	#16	#20
28-19S	4.63	2.89	5.30	5.56	4.59	4.93	5.96	7.41	10	1/16				4		
										1/8					4	
28-19P	4.04	2.33	4.70	4.96	4.04	4.33	5.37	6.85		1/4					2	
28-20S	5.44	3.74	6.11	6.41	5.44	5.78	6.82	8.26	14	1/16				10	4	
28-20P	4.67	3.00	5.33	5.67	4.74	5.00	6.07	7.56								
28-22S	5.11	3.37	5.74	6.04	5.11	5.37	6.44	7.89	6	1/8		3			3	
28-22P	4.78	2.82	5.22	5.44	4.48	4.85	5.85	7.37								
32-1S	5.00	3.30	5.93	6.26	5.15	5.93	6.74	8.59	5	1/8	2			3		
32-1P	4.37	2.93	5.04	5.82	4.74	5.52	6.22	8.19								
32-2S	5.74	4.15	6.48	7.07	5.93	6.74	7.11	9.37	5	3/16		3			2	
32-2P	4.56	2.96	5.30	5.93	4.74	5.56	5.93	8.19								
32-3S	5.44	3.70	6.26	6.67	5.56	6.33	7.15	8.41	9	1/8	1	2		2	4	
32-3P	4.93	3.33	5.59	6.26	5.11	5.93	6.78	8.59								
32-4S	5.48	4.44	6.22	7.07	5.67	6.48	6.85	9.15	14	1/8				2	7	
32-4P	5.19	3.48	6.04	6.41	5.26	6.04	6.85	8.70		3/16					5	
32-5S	4.74	3.19	5.41	6.15	5.44	5.78	6.59	8.48	2	1/8	2					
32-5P	3.82	2.52	4.52	5.26	4.33	5.22	5.63	7.82								
32-6S	8.07	6.33	8.93	9.30	8.15	8.93	9.74	11.63	23	1/16		2	3	2	16	
32-6P	7.00	5.30	7.85	8.22	7.07	7.85	8.70	10.59								
32-7S	7.96	6.22	8.82	9.22	8.04	8.82	9.67	11.52	35	1/16				7	28	
32-7P	7.30	5.59	8.15	8.56	7.37	8.15	9.00	10.89								
32-8S	7.30	5.59	8.15	8.56	7.41	8.19	9.00	10.93	30	1/16				6	24	
32-8P	6.74	5.00	7.59	8.00	6.85	7.63	8.45	10.22								
32-9S	6.30	4.96	7.04	7.85	6.48	7.30	7.67	9.93	14	1/8		2			12	
32-9P	5.59	3.82	6.41	6.82	5.67	6.44	7.04	9.11								
32-10S	5.85	4.30	6.52	7.26	6.11	6.89	7.70	9.59	7	1/8		2	2			
32-10P	4.67	3.26	5.33	6.07	5.04	5.82	6.52	8.52		1/4					3	
32-12S	5.82	4.11	6.67	7.04	5.93	6.67	7.56	9.41	15	1/16				5	6	
32-12P	5.15	3.41	6.04	6.41	5.26	6.04	6.85	8.70		1/8					4	


28-19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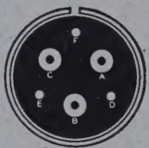
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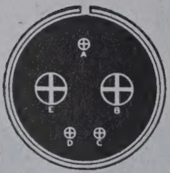
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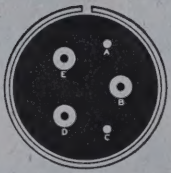
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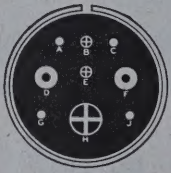
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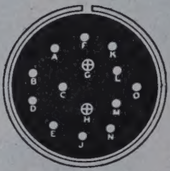
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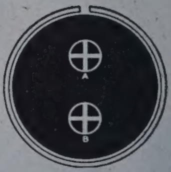
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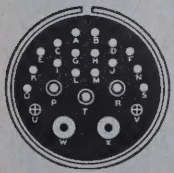
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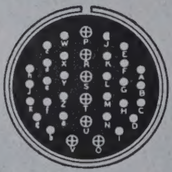
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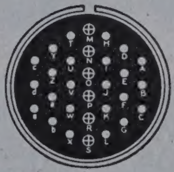
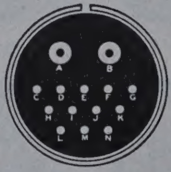
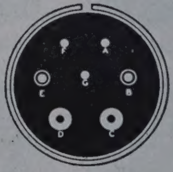

32-8


32-9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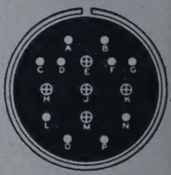
32-12

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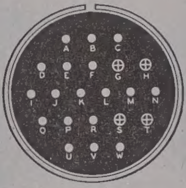
INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE					
											#0	#4	#8	#12	#16	#20
36-1S 36-1P	6.63 6.15	5.22 4.56	7.33 7.19	8.22 7.56	6.96 6.26	7.74 7.00	8.56 7.82	10.45 9.74	22	1/8				4	18	
36-2S 36-2P	5.70 5.44	4.59 4.00	6.78 6.26	7.48 6.96	6.22 5.67	6.96 6.41	7.82 7.11	9.70 9.00	5	3/16	3			2		
36-3S 36-3P	6.33 5.67	4.82 4.15	7.33 6.44	7.52 7.07	6.44 5.85	7.19 6.59	8.00 7.33	9.30 9.19	6	3/16	3			3		
36-4S 36-4P	6.00 5.04	4.44 3.74	6.93 5.85	7.30 6.82	6.07 5.26	6.78 6.00	7.63 6.70	9.48 8.59	3	1/8	3					
36-5S 36-5P	5.96 5.22	4.44 3.63	6.96 6.22	7.33 6.59	6.07 5.33	6.82 6.07	7.67 6.93	9.52 8.82	4	1/16	4					
36-6S 36-6P	7.07 6.26	5.70 4.78	8.07 7.04	8.48 7.63	7.22 6.44	7.96 7.07	8.78 7.93	10.67 9.82	6	1/16	2	4				
36-7S 36-7P	9.67 8.82	8.11 7.41	10.67 9.82	11.04 10.19	9.78 8.93	10.52 9.67	11.33 10.48	13.26 12.37	47	1/16				7	40	
36-8S 36-8P	8.19 8.63	7.48 7.26	8.93 9.67	10.67 10.11	9.30 8.78	10.04 9.48	10.74 10.30	12.63 12.22	47	1/16				1	46	
36-9S 36-9P	9.45 8.15	7.89 6.33	10.48 9.11	10.85 9.52	9.59 8.26	10.30 9.00	11.11 9.82	13.04 11.74	31	1/16		1	2	14	14	
36-13S 36-13P	6.44 5.70	4.59 3.82	7.45 6.67	7.82 5.26	6.56 5.82	7.30 6.56	8.11 7.37	10.04 9.30	17	1/8 1/4				2	10 5	
36-14S 36-14P	7.22 5.15	5.37 3.26	8.14 6.11	8.59 6.48	7.33 5.26	8.11 6.00	8.93 6.89	10.82 8.67	16	1/8			5	5	6	
36-15S 36-15P	6.67 7.59	6.00 5.74	7.41 8.37	8.30 8.96	7.63 7.70	8.37 8.45	9.07 9.26	10.96 11.15	35	1/8					35	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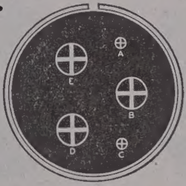
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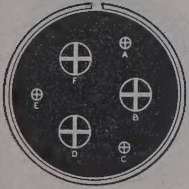
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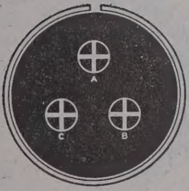
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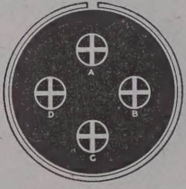
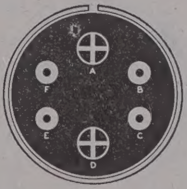
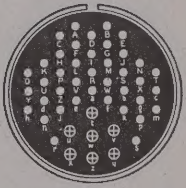

36-5


36-6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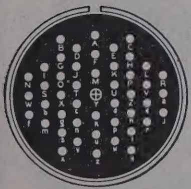
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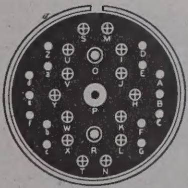
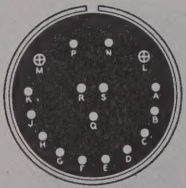
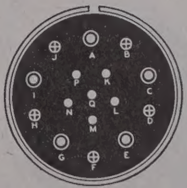

36-9


36-13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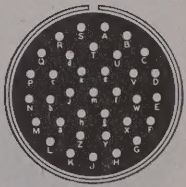
36-15

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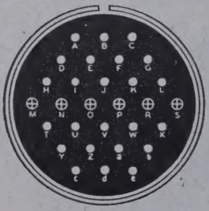
INSERT	AN3100	AN3102	AN3106	AN3108	AN3101	97-5105	97-5107	97-5109	TOTAL CON-TACTS	MECH'L SPACING	CONTACT SIZE					
											#0	#4	#8	#12	#16	#20
40-1S	9.22	6.78	10.37	11.00	9.37				30	1/8				6	24	
40-1P	8.11	5.67	9.59	10.04	8.26											
40-2S	7.74	5.63	8.15	8.85	7.93				23	1/8 3/16					18 5	
40-2P	7.30	4.78	8.78	9.22	7.41											
40-3S	8.89	6.22	10.22	10.96	9.04				23	1/8		1		4	18	
40-3P	7.96	5.30	8.85	9.59	8.11											
40-4S	9.52	7.00	11.04	11.48	9.70				23	3/16		2	3	2	16	
40-4P	8.78	6.11	10.19	10.67	8.89											
40-5S	10.41	7.74	11.85	12.30	10.56				15	1/16	3	2	4	6		
40-5P	9.07	6.44	10.00	10.74	9.26											
40-6S	9.07	6.59	9.48	10.19	9.26				26	1/8	1			1	24	
40-6P	8.41	5.74	9.85	10.30	7.33											
40-9S	12.93	10.26	14.41	14.89	13.08				47	1/16			1	22	24	
40-9P	11.07	8.45	12.59	13.04	11.26											
40-10S	11.45	8.82	12.96	13.41	11.82				29	1/16		4	9		16	
40-10P	10.45	7.78	11.89	12.37	10.59											
40-11S	9.78	7.96	12.33	12.78	11.00				25	1/8	1	1	1	4	18	
40-11P	8.90	6.26	10.37	10.82	9.04											
44-1S	11.04	8.15	11.37	12.41	12.41				42	1/8				6	36	
44-1P	11.30	7.00	11.30	11.85	11.48											
44-2S	13.78	7.85	12.89	12.70	12.33				31	1/8		1	2	14	14	
44-2P	10.41	6.33	10.59	11.74	10.82											
44-3S	11.93	7.63	11.93	6.48	9.26				31	1/8		2	2	3	24	
44-3P	10.89	6.56	10.89	11.45	11.04											
48-1S	11.96	7.19	14.89	13.85	12.22	16.30	17.33	23.71	15	1/8	3	2	4	6		
48-1P	10.48	6.15	11.52	12.70	10.67	15.19	11.93	22.67								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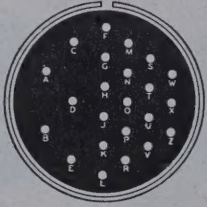
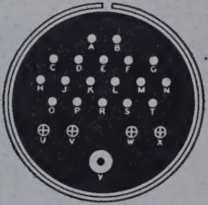
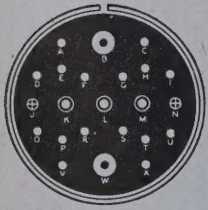

40-2


40-3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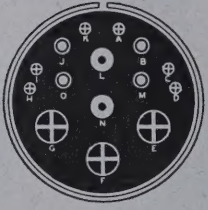
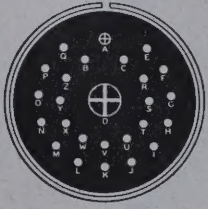
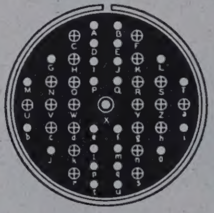
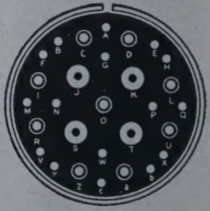
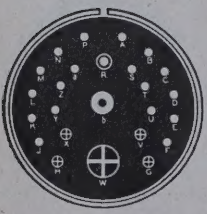

40-5


40-6


40-9


40-10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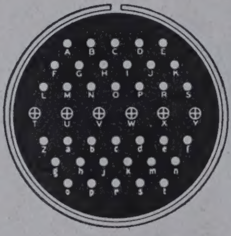
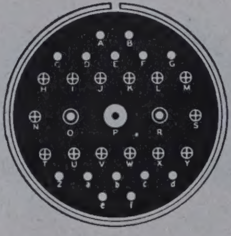
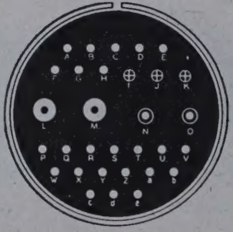
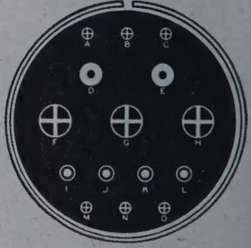

44-1


44-2

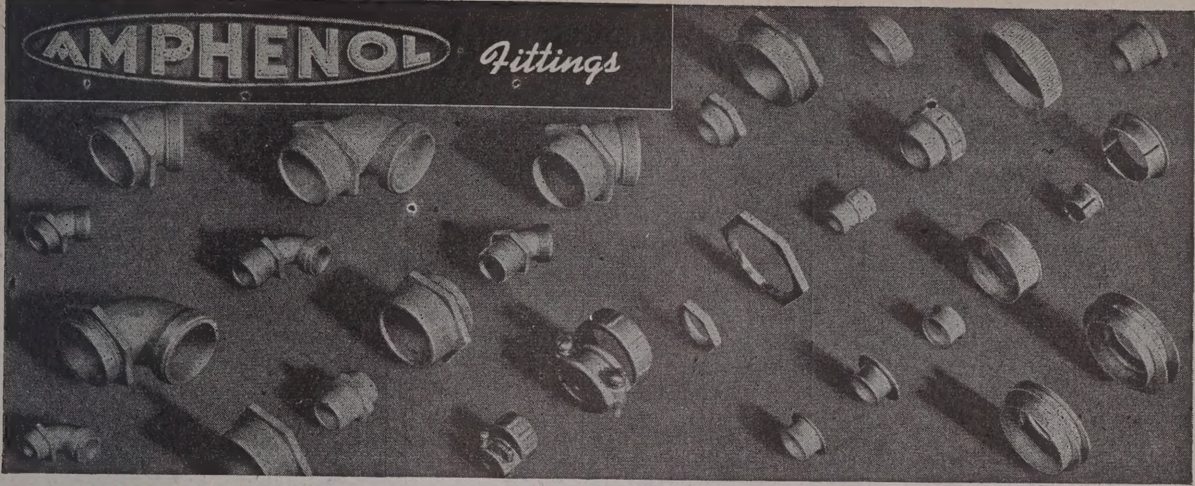

44-3



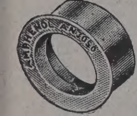
48-1

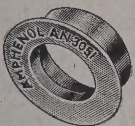
(continued on next page)

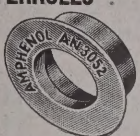
AMPHENOL *Fittings*



FLEXIBLE CONDUIT FERRULES

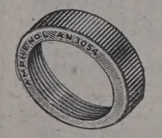

AN-3050
STANDARD


AN-3051
ONE-STEP


AN-3052
TWO-STEP

AN Number and Size	List Price
AN-3050-3	$.09
AN-3051-3	.09
AN-3050-4	.09
AN-3051-4	.09
AN-3052-4	.12
AN-3050-6	.10
AN-3051-6	.10
AN-3052-6	.13
AN-3050-8	.10
AN-3051-8	.10
AN-3052-8	.13
AN-3050-10	.12
AN-3051-10	.12
AN-3052-10	.15
AN-3050-12	.12
AN-3051-12	.12
AN-3052-12	.15
AN-3050-16	.16
AN-3051-16	.22
AN-3052-16	.24
AN-3050-20	.19
AN-3051-20	.25
AN-3052-20	.28
AN-3050-24	.22
AN-3051-24	.28
AN-3052-24	.30
AN-3050-28	.25
AN-3051-28	.30
AN-3052-28	.33
AN-3050-32	.28
AN-3051-32	.32
AN-3050-40	.33

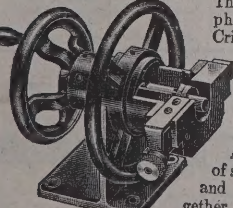
CONDUIT COUPLING NUT


AN-3054

AN-3054-3	$.09
AN-3054-4	.09
AN-3054-6	.13
AN-3054-8	.15
AN-3054-10	.22
AN-3054-12	.26
AN-3054-16	.29
AN-3054-20	.47
AN-3054-24	.60
AN-3054-28	.75
AN-3054-32	.85
AN-3054-40	1.00

AMPHENOL

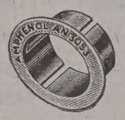
FERRULE CRIMPING MACHINE



The popular Amphenol Ferrule Crimping Machine readily equips any operator for skilled, expert crimping of ferrules.

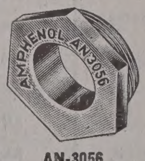
A complete set of standard collets and mandrels, together with instructions for operation, accompanies each Amphenol Ferrule Crimping Machine. **Write for Details.**

RIGID CONDUIT FERRULE


AN-3053

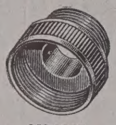
AN Number and Size	List Price
AN-3053-3	$·20
AN-3053-4	.14
AN-3053-6	.14
AN-3053-8	.15
AN-3053-10	.15
AN-3053-12	.19
AN-3053-16	.23
AN-3053-20	.29
AN-3053-24	.33
AN-3053-28	.35
AN-3053-32	.40
AN-3053-40	.50

CONDUIT COUPLING
(RIGID TO FLEXIBLE)


AN-3056

AN Number and Size	List Price
AN-3056-3	$.23
AN-3056-4	.25
AN-3056-6	.25
AN-3056-8	.25
AN-3056-10	.30
AN-3056-12	.30
AN-3056-16	.40
AN-3056-20	.55
AN-3056-24	.55
AN-3056-28	.65
AN-3056-32	.75
AN-3056-40	.90

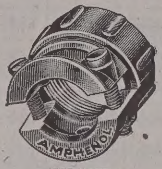
ADAPTER FOR "AN" CONNECTORS


AN-3055

AN Number and Size	List Price
AN-3055-8-3	$.80
AN-3055-12-3	.90
AN-3055-12-4	.90
AN-3055-14-4	1.20
AN-3055-16-4	1.60
AN-3055-14-6	1.20
AN-3055-16-6	1.60
AN-3055-18-6	1.80
AN-3055-16-8	1.60
AN-3055-18-8	1.80
AN-3055-22-8	2.00
AN-3055-18-10	1.80
AN-3055-22-10	2.00
AN-3055-28-10	2.20
AN-3055-22-12	2.00
AN-3055-28-12	2.20
AN-3055-32-12	2.40
AN-3055-28-16	2.20
AN-3055-32-16	2.40
AN-3055-36-16	2.60
AN-3055-32-20	2.40
AN-3055-36-20	2.60
AN-3055-40-20	2.80
AN-3055-36-24	2.60
AN-3055-40-24	2.80
AN-3055-44-24	3.00
AN-3055-40-28	2.80
AN-3055-44-28	3.00
AN-3055-48-28	3.20
AN-3055-44-32	3.00
AN-3055-48-32	3.20
AN-3055-48-40	3.20

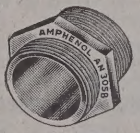
Specify Amphenol "AN" Fittings for a most functional use in connection with Amphenol "AN" Connectors.

CABLE CLAMP


AN-3057

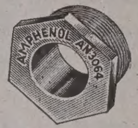
AN Number and Size	List Price
AN-3057-3	$.60
AN-3057-4	.60
AN-3057-6	.60
AN-3057-8	.70
AN-3057-10	.70
AN-3057-12	.75
AN-3057-16	.80
AN-3057-20	1.50
AN-3057-24	1.60
AN-3057-28	1.75
AN-3057-32	1.90
AN-3057-40	2.00

STRAIGHT CONDUIT COUPLING


AN-3058

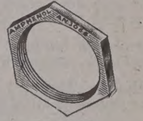
AN-3058-3	$.32
AN-3058-4	.32
AN-3058-6	.33
AN-3058-8	.40
AN-3058-10	.40
AN-3058-12	.45
AN-8-30516	.55
AN-3058-20	.70
AN-3058-24	.75
AN-3058-28	1.00
AN-3058-32	1.20
AN-3058-40	1.75

CONDUIT BOX CONNECTOR


AN-3064

AN Number and Size	List Price
AN-3064-3	$.18
AN-3064-4	.18
AN-3064-6	.18
AN-3064-8	.20
AN-3064-10	.22
AN-3064-12	.25
AN-3064-16	.30
AN-3064-20	.60
AN-3064-24	.60
AN-3064-28	.70
AN-3064-32	.80
AN-3064-40	1.00

CONDUIT COUPLING LOCK NUT


AN-3066

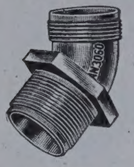
AN-3066-3	$.07
AN-3066-4	.09
AN-3066-6	.10
AN-3066-8	.15
AN-3066-10	.18
AN-3066-12	.20
AN-3066-16	.23
AN-3066-20	.33
AN-3066-24	.35
AN-3066-28	.60
AN-3066-32	.80
AN-3066-40	1.10

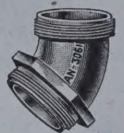
Essential Quality Parts for the **RADIO-ELECTRONIC** *Industry*

AMERICAN PHENOLIC CORPORATION
Chicago 50, Illinois
IN TORONTO • AMPHENOL LIMITED

Depend upon AMPHENOL *Quality*

45° ANGLE CONDUIT COUPLING

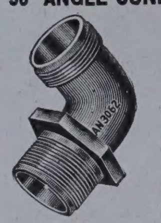

AN-3060

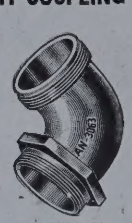

AN-3061

AN Number and Size	List Price
AN-3060-3	$.65
AN-3060-4	.65
AN-3060-6	.65
AN-3060-8	.70
AN-3060-10	.75
AN-3060-12	.80
AN-3060-16	.85
AN-3060-20	1.10
AN-3060-24	1.20
AN-3060-28	....
AN-3060-32	....
AN-3060-40	....

AN Number and Size	List Price
AN-3061-3	$1.00
AN-3061-4	1.00
AN-3061-6	1.00
AN-3061-8	1.00
AN-3061-10	1.15
AN-3061-12	1.15
AN-3061-16	1.30
AN-3061-20	1.55
AN-3061-24	1.75
AN-3061-28	....
AN-3061-32	....
AN-3061-40	....

90° ANGLE CONDUIT COUPLING

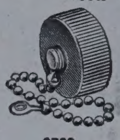

AN-3062


AN-3063

AN Number and Size	List Price
AN-3062-3	$.70
AN-3062-4	.75
AN-3062-6	.80
AN-3062-8	.90
AN-3062-10	1.00
AN-3062-12	1.10
AN-3062-16	1.25
AN-3062-20	1.40
AN-3062-24	2.00
AN-3062-28	....
AN-3062-32	....
AN-3062-40	....

AN Number and Size	List Price
AN-3063-3	$1.00
AN-3063-4	1.00
AN-3063-6	1.00
AN-3063-8	1.00
AN-3063-10	1.15
AN-3063-12	1.20
AN-3063-16	1.20
AN-3063-20	1.40
AN-3063-24	2.10
AN-3063-28	....
AN-3063-32	....
AN-3063-40	....

CAP AND CHAIN


9760

9760-P

Amphenol Number Receptacle	List Price	Amphenol Number Plug	List Price
9760-8	$1.00	9760-8P	PRICES ON REQUEST
9760-10	1.00	9760-10P	
9760-12	1.00	9760-12P	
9760-14	1.00	9760-14P	
9760-16	1.00	9760-16P	
9760-18	1.10	9760-18P	
9760-20	1.10	9760-20P	
9760-22	1.20	9760-22P	
9760-24	1.20	9760-24P	
9760-28	1.30	9760-28P	
9760-32	1.30	9760-32P	
9760-36	1.40	9760-36P	
9760-40	1.40	9760-40P	
9760-44	1.50	9760-44P	
9760-48	2.00	9760-48P	

ASSEMBLY DATA "AN" CONDUIT FITTINGS

In accordance with Army and Navy Specifications AN-9534 and AN-W-C-591, electrical ("AN") connectors are required in the installation of electrical and radio equipment on aircraft, marine and other motorized units. In most cases the use of these connectors in the radio and electronic industries involve installation of rigid or flexible conduit. A comprehensive line of conduit fittings have been designed for use in properly joining connectors to conduit and provides for runs, turns, couplings and other devices needed in complete installations of radio and electrical equipment.

Amphenol "AN" Conduit Fittings are fabricated in accordance with Army-Navy specifications. The material is aluminum alloy of specified strength. Due to manufacturing process, parts are completely interchangeable and have the official Army-Navy "AN" part number stamped or cast on them. This facilitates easy handling, reduces errors, definitely saves time and labor in reordering fittings as well as making actual replacements.

Threads are coated with Permalub to prevent binding of the coupled parts. Further lubrication on the threads at the time of assembly is unnecessary in that the adherent quality of Permalub to the aluminum is sufficient.

Ferrules for synthetic tubing are in common use today and are illustrated on the synthetics page in this catalog together with the tubing.

Altho more types are manufactured and stocked, this condensed presentation of the complete line represents all of the popular fittings commonly used and specified.

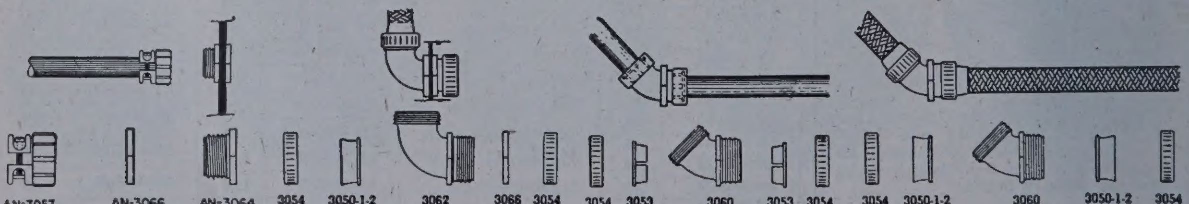
TYPICAL ASSEMBLY CHARTS

Fitting assemblies are classified under four groups: Straight Terminations, Angle Terminations, Straight Couplings and Angle Couplings. Write for Section B of our Amphenol No. 70 Catalog which lists complete fitting assemblies approved by Army-Navy. Illustrations below are suggested applications and usages, typical of diagrams which will enable an engineer or production man to take off materials for each given junction with a minimum of time and effort. Further, the use of such charts promotes accuracy in ordering and maintaining stocks.

SIZE INFORMATION

The following chart provides information as to associated sizes of connector shells and conduits in relation to fitting sizes.

Dash Number Size	Nominal I. D. of Conduit	For Use With Connector Size	Fitting Thread
AN-0000-3	³⁄₁₆	8S, 10S	½—28
AN-0000-4	¼	12, 12S	⅝—24
AN-0000-6	⅜	14, 14S	¾—20
AN-0000-8	½	16, 16S	⅞—20
AN-0000-10	⅝	18	1 —20
AN-0000-12	¾	20, 22	1³⁄₁₆—18
AN-0000-16	1	24, 28	1⁷⁄₁₆—18
AN-0000-20	1¼	32	1¾—18
AN-0000-24	1½	36	2 —18
AN-0000-28	1¾	40	2¼—16
AN-0000-32	2	44	2½—16
AN-0000-40	2½	48	3 —16



"300" SERIES PLUGS AND SOCKETS

General Specifications

2 Contacts to 33 Contacts. All plugs and sockets are polarized.

2 Contact Plugs and Sockets are round, others rectangular.

Plugs of one size cannot fit into sockets of another size.

Phosphor bronze "knife-switch" type socket contacts engage both sides of flat plug contacts—double contact area.

Molded Bakelite insulation.

Formed metal caps. Formed fibre linings in caps.

Small size, with good separation between contacts.

Plug or socket for panel mounting.

Plug or socket with cap.

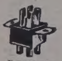
Simple, fool-proof assembly.

Finish on caps—Black Crystal.

Plug prongs—$\frac{5}{32}$" wide by $\frac{3}{64}$" thick.

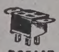
We suggest using the 300 series in circuits not exceeding 45 Volts and 5 Amps., although circuit characteristics may permit higher ratings.

Plug with Angle Brackets


P304AB

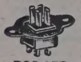
No.	Contacts	Ea.
P-302-AB	(2)	$ .16
P-303-AB	(3)	.19
P-304-AB	(4)	.22
P-306-AB	(6)	.27
P-308-AB	(8)	.32
P-310-AB	(10)	.37
P-312-AB	(12)	.42

Socket with Angle Brackets


S304AB

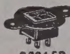
No.	Contacts	Ea.
S-302-AB	(2)	$ .17
S-303-AB	(3)	.20
S-304-AB	(4)	.23
S-306-AB	(6)	.30
S-308-AB	(8)	.37
S-310-AB	(10)	.44
S-312-AB	(12)	.51

Plug with Flush Plate


P304FP

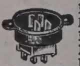
No.	Contacts	Ea.
P-302-FP	(2)	$ .27
P-303-FP	(3)	.30
P-304-FP	(4)	.33
P-306-FP	(6)	.38
P-308-FP	(8)	.43
P-310-FP	(10)	.48
P-312-FP	(12)	.53

Socket with Flush Plate


S304FP

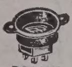
No.	Contacts	Ea.
S-302-FP	(2)	$ .28
S-303-FP	(3)	.31
S-304-FP	(4)	.34
S-306-FP	(6)	.41
S-308-FP	(8)	.48
S-310-FP	(10)	.55
S-312-FP	(12)	.62

Plug with Recessed Plate


P304RP

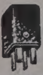
No.	Contacts	Ea.
P-302-RP	(2)	$ .32
P-303-RP	(3)	.35
P-304-RP	(4)	.38
P-306-RP	(6)	.45
P-308-RP	(8)	.52
P-310-RP	(10)	.59
P-312-RP	(12)	.66

Socket with Recessed Plate


S304RP

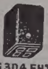
No.	Contacts	Ea.
S-302-RP	(2)	$ .33
S-303-RP	(3)	.36
S-304-RP	(4)	.39
S-306-RP	(6)	.48
S-308-RP	(8)	.57
S-310-RP	(10)	.66
S-312-RP	(12)	.75

Plug, Flared Hole in Cap


P304FHT

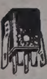
No.	Contacts	Ea.
P-302-FHT	(2)	$ .26
P-303-FHT	(3)	.29
P-304-FHT	(4)	.32
P-306-FHT	(6)	.38
P-308-FHT	(8)	.44
P-310-FHT	(10)	.50
P-312-FHT	(12)	.56

Socket, Flared Hole in Cap


S304FHT

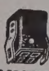
No.	Contacts	Ea.
S-302-FHT	(2)	$ .27
S-303-FHT	(3)	.30
S-304-FHT	(4)	.33
S-306-FHT	(6)	.41
S-308-FHT	(8)	.49
S-310-FHT	(10)	.57
S-312-FHT	(12)	.65

Plug, Flared Hole in Cap and with Latches


P304FHT-L

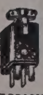
No.	Contacts	Ea.
P-302-FHT-L	(2)	$ .36
P-303-FHT-L	(3)	.39
P-304-FHT-L	(4)	.42
P-306-FHT-L	(6)	.48
P-308-FHT-L	(8)	.54
P-310-FHT-L	(10)	.60
P-312-FHT-L	(12)	.66

Socket, Flared Hole in Cap and with Keepers


S304FHT-K

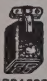
No.	Contacts	Ea.
S-302-FHT-K	(2)	$ .37
S-303-FHT-K	(3)	.40
S-304-FHT-K	(4)	.43
S-306-FHT-K	(6)	.51
S-308-FHT-K	(8)	.59
S-310-FHT-K	(10)	.67
S-312-FHT-K	(12)	.75

Plug, Cable Clamp in Cap


P304CCT

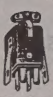
No.	Contacts	Ea.
P-302-CCT	(2)	$ .36
P-303-CCT	(3)	.39
P-304-CCT	(4)	.42
P-306-CCT	(6)	.48
P-308-CCT	(8)	.54
P-310-CCT	(10)	.60
P-312-CCT	(12)	.66

Socket, Cable Clamp in Cap


S304CCT

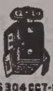
No.	Contacts	Ea.
S-302-CCT	(2)	$ .37
S-303-CCT	(3)	.40
S-304-CCT	(4)	.43
S-306-CCT	(6)	.51
S-308-CCT	(8)	.59
S-310-CCT	(10)	.67
S-312-CCT	(12)	.75

Plug, Cable Clamp in Cap and with Latches


P304CCT-L

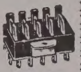
No.	Contacts	Ea.
P-302-CCT-L	(2)	$ .46
P-303-CCT-L	(3)	.49
P-304-CCT-L	(4)	.52
P-306-CCT-L	(6)	.58
P-308-CCT-L	(8)	.64
P-310-CCT-L	(10)	.70
P-312-CCT-L	(12)	.76

Socket, Cable Clamp in Cap and with Keepers


S304CCT-K

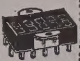
No.	Contacts	Ea.
S-302-CCT-K	(2)	$ .47
S-303-CCT-K	(3)	.50
S-304-CCT-K	(4)	.53
S-306-CCT-K	(6)	.61
S-308-CCT-K	(8)	.69
S-310-CCT-K	(10)	.77
S-312-CCT-K	(12)	.85

Plug with Angle Brackets


P315AB

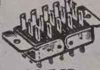
No.	Contacts	Ea.
P-315-AB	(15)	$ .60
P-318-AB	(18)	.75
P-321-AB	(21)	.95
P-324-AB	(24)	1.15
P-327-AB	(27)	1.35
P-330-AB	(30)	1.55
P-333-AB	(33)	1.75

Socket with Angle Brackets


S315AB

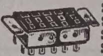
No.	Contacts	Ea.
S-315-AB	(15)	$ .70
S-318-AB	(18)	.85
S-321-AB	(21)	1.05
S-324-AB	(24)	1.25
S-327-AB	(27)	1.45
S-330-AB	(30)	1.65
S-333-AB	(33)	1.85

Plug with End Brackets


P315EB

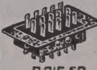
No.	Contacts	Ea.
P-315-EB	(15)	$ .60
P-318-EB	(18)	.75
P-321-EB	(21)	.95
P-324-EB	(24)	1.15
P-327-EB	(27)	1.35
P-330-EB	(30)	1.55
P-333-EB	(33)	1.75

Sockets with End Brackets


S315EB

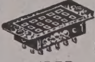
No.	Contacts	Ea.
S-315-EB	(15)	$ .70
S-318-EB	(18)	.85
S-321-EB	(21)	1.05
S-324-EB	(24)	1.25
S-327-EB	(27)	1.45
S-330-EB	(30)	1.65
S-333-EB	(33)	1.85

Plug with Shallow Brackets


P315SB

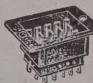
No.	Contacts	Ea.
P-315-SB	(15)	$ .90
P-318-SB	(18)	1.10
P-321-SB	(21)	1.30
P-324-SB	(24)	1.55
P-327-SB	(27)	1.75
P-330-SB	(30)	2.00
P-333-SB	(33)	2.20

Sockets with Shallow Brackets


S315SB

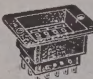
No.	Contacts	Ea.
S-315-SB	(15)	$1.00
S-318-SB	(18)	1.20
S-321-SB	(21)	1.40
S-324-SB	(24)	1.65
S-327-SB	(27)	1.85
S-330-SB	(30)	2.10
S-333-SB	(33)	2.30

Plug with Deep Bracket


P315DB

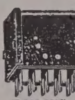
No.	Contacts	Ea.
P-315-DB	(15)	$ .90
P-318-DB	(18)	1.10
P-321-DB	(21)	1.30
P-324-DB	(24)	1.55
P-327-DB	(27)	1.75
P-330-DB	(30)	2.00
P-333-DB	(33)	2.20

Socket with Deep Bracket


S315DB

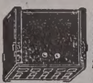
No.	Contacts	Ea.
S-315-DB	(15)	$1.00
S-318-DB	(18)	1.20
S-321-DB	(21)	1.40
S-324-DB	(24)	1.65
S-327-DB	(27)	1.85
S-330-DB	(30)	2.10
S-333-DB	(33)	2.30

Plug with Flared Hole in Top of Cap


P315FHT

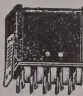
No.	Contacts	Ea.
P-315-FHT	(15)	$ .80
P-318-FHT	(18)	1.00
P-321-FHT	(21)	1.20
P-324-FHT	(24)	1.45
P-327-FHT	(27)	1.65
P-330-FHT	(30)	1.90
P-333-FHT	(33)	2.10

Socket, Flared Hole in Top of Cap


S315FHT

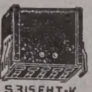
No.	Contacts	Ea.
S-315-FHT	(15)	$ .90
S-318-FHT	(18)	1.10
S-321-FHT	(21)	1.30
S-324-FHT	(24)	1.55
S-327-FHT	(27)	1.75
S-330-FHT	(30)	2.00
S-333-FHT	(33)	2.20

Plug, Flared Hole in Top of Cap and with Latches


P315FHT-L

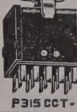
No.	Contacts	Ea.
P-315-FHT-L	(15)	$ .90
P-318-FHT-L	(18)	1.10
P-321-FHT-L	(21)	1.30
P-324-FHT-L	(24)	1.55
P-327-FHT-L	(27)	1.75
P-330-FHT-L	(30)	2.00
P-333-FHT-L	(33)	2.20

Socket, Flared Hole in Top of Cap and with Keepers


S315FHT-K

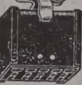
No.	Contacts	Ea.
S-315-FHT-K	(15)	$1.00
S-318-FHT-K	(18)	1.20
S-321-FHT-K	(21)	1.40
S-324-FHT-K	(24)	1.65
S-327-FHT-K	(27)	1.85
S-330-FHT-K	(30)	2.10
S-333-FHT-K	(33)	2.30

Plug, Cable Clamp in Top of Cap


P315CCT-

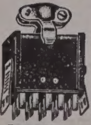
No.	Contacts	Ea.
P-315-CCT	(15)	$ .95
P-318-CCT	(18)	1.15
P-321-CCT	(21)	1.35
P-324-CCT	(24)	1.60
P-327-CCT	(27)	1.80
P-330-CCT	(30)	2.10
P-333-CCT	(33)	2.25

Socket, Cable Clamp in Top of Cap


S315CCT

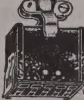
No.	Contacts	Ea.
S-315-CCT	(15)	$1.05
S-318-CCT	(18)	1.25
S-321-CCT	(21)	1.45
S-324-CCT	(24)	1.70
S-327-CCT	(27)	1.90
S-330-CCT	(30)	2.20
S-333-CCT	(33)	2.35

Plug, Cable Clamp in Top of Cap and with Latches


P315CCT-L

No.	Contacts	Ea.
P-315-CCT-L	(15)	$1.05
P-318-CCT-L	(18)	1.25
P-321-CCT-L	(21)	1.45
P-324-CCT-L	(24)	1.70
P-327-CCT-L	(27)	1.90
P-330-CCT-L	(30)	2.20
P-333-CCT-L	(33)	2.35

Socket, Cable Clamp in Top of Cap and with Keepers


S315CCT-K

No.	Contacts	Ea.
S-315-CCT-K	(15)	$1.15
S-318-CCT-K	(18)	1.35
S-321-CCT-K	(21)	1.55
S-324-CCT-K	(24)	1.80
S-327-CCT-K	(27)	2.00
S-330-CCT-K	(30)	2,30
S-333-CCT-K	(33)	2.45

"400" SERIES PLUGS AND SOCKETS (Formerly "Heavy Duty")

General Specifications

2, 4, 6, 8, 10 and 12 Contacts.
All plugs and sockets are polarized.
Phosphor bronze "knife switch" type socket contacts engage both sides of flat plug contacts—double contact area.
Molded Bakelite insulation.
Fibre linings in caps.
Plug or socket for panel mounting.
Plug or socket with caps.
Finish on caps—Black Crystal.
Plug prong cross section ¼" x $\frac{1}{16}$".
Locking fittings available for panel types or extension cables as shown.
We recommend using the 400 series in circuits not exceeding 110 Volts and 10 Amperes, although circuit characteristics may permit higher ratings.

PLUG—Less Angle Brackets not Drilled or Tapped Unless Specified

P-404-LAB

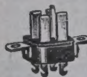
No.	Contacts	Ea.
P-402-LAB	(2)	$ .25
P-404-LAB	(4)	.35
P-406-LAB	(6)	.45
P-408-LAB	(8)	.55
P-410-LAB	(10)	.65
P-412-LAB	(12)	.75

SOCKET—Less Angle Brackets. Not Drilled or Tapped Unless Specified

S-404-LAB

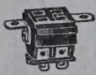
No.	Contacts	Ea.
S-402-LAB	(2)	$ .30
S-404-LAB	(4)	.45
S-406-LAB	(6)	.60
S-408-LAB	(8)	.75
S-410-LAB	(10)	.90
S-412-LAB	(12)	1.05

PLUG—with Angle Brackets for 1/16" Panel


P-404-AB $\frac{1}{16}$"

No.		Contacts	Ea.
P-402-AB	$\frac{1}{16}$"	(2)	$.45
P-404-AB	$\frac{1}{16}$"	(4)	.55
P-406-AB	$\frac{1}{16}$"	(6)	.65
P-408-AB	$\frac{1}{16}$"	(8)	.75
P-410-AB	$\frac{1}{16}$"	(10)	.85
P-412-AB	$\frac{1}{16}$"	(12)	.95

SOCKET—with Angle Brackets


S-404-AB

No	Contacts	Ea.
S-402-AB	(2)	$ .50
S-404-AB	(4)	.65
S-406-AB	(6)	.80
S-408-AB	(8)	.95
S-410-AB	(10)	1.10
S-412-AB	(12)	1.25

PLUG—with Shallow Brackets

P 404 SB

No.	Contacts	Ea.
P-402-SB	(2)	$ .55
P-404-SB	(4)	.70
P-406-SB	(6)	.85
P-408-SB	(8)	1.00
P-410-SB	(10)	1.15
P-412-SB	(12)	1.30

SOCKET—with Shallow Brackets

S 404 SB

No.	Contacts	Ea.
S-402-SB	(2)	$ .60
S-404-SB	(4)	.80
S-406-SB	(6)	1.00
S-408-SB	(8)	1.20
S-410-SB	(10)	1.40
S-412-SB	(12)	1.60

PLUG—with Deep Bracket

P-404-DB

No.	Contacts	Ea
P-402-DB	(2)	$ .55
P-404-DB	(4)	.70
P-406-DB	(6)	.85
P-408-DB	(8)	1.00
P-410-DB	(10)	1.15
P-412-DB	(12)	1.30

SOCKET—with Deep Brackets

S 404 DB

No.	Contacts	Ea.
S-402-DB	(2)	$ .60
S-404-DB	(4)	.80
S-406-DB	(6)	1.00
S-408-DB	(8)	1.20
S-410-DB	(10)	1.40
S-412-DB	(12)	1.60

PLUGS

P-404-FHT

PLUG—Flared Hole in Top

No.	Contacts	Ea.
P-402-FHT	(2)	$ .50
P-404-FHT	(4)	.65
P-406-FHT	(6)	.80
P-408-FHT	(8)	.95
P-410-FHT	(10)	1.10
P-412-FHT	(12)	1.25

PLUG—Flared Hole in End

No.	Contacts	Ea.
P-402-FHE	(2)	$ .50
P-404-FHE	(4)	.65
P-406-FHE	(6)	.80
P-408-FHE	(8)	.95
P-410-FHE	(10)	1.10
P-412-FHE	(12)	1.25

SOCKETS

SOCKET—Flared Hole in Top

No.	Contacts	Ea.
S-402-FHT	(2)	$ .55
S-404-FHT	(4)	.75
S-406-FHT	(6)	.95
S-408-FHT	(8)	1.15
S-410-FHT	(10)	1.35
S-412-FHT	(12)	1.55

SOCKET—Flared Hole in End

No.	Contacts	Ea.
S-402-FHE	(2)	$ .55
S-404-FHE	(4)	.75
S-406-FHE	(6)	.95
S-408-FHE	(8)	1.15
S-410-FHE	(10)	1.35
S-412-FHE	(12)	1.55

PLUGS

P-404-CCT

PLUG—Cable Clamp in Top

No.	Contacts	Ea.
P-402-CCT	(2)	$ .70
P-404-CCT	(4)	.85
P-406-CCT	(6)	1.00
P-408-CCT	(8)	1.15
P-410-CCT	(10)	1.30
P-412-CCT	(12)	1.45

PLUG—Cable Clamp in End

No.	Contacts	Ea.
P-402-CCE	(2)	$ .70
P-404-CCE	(4)	.85
P-406-CCE	(6)	1.00
P-408-CCE	(8)	1.15
P-410-CCE	(10)	1.30
P-412-CCE	(12)	1.45

SOCKETS

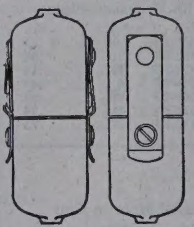
SOCKET—Cable Clamp in Top

No.	Contacts	Ea.
S-402-CCT	(2)	$ .75
S-404-CCT	(4)	.95
S-406-CCT	(6)	1.15
S-408-CCT	(8)	1.35
S-410-CCT	(10)	1.55
S-412-CCT	(12)	1.75

SOCKET—Cable Clamp in End

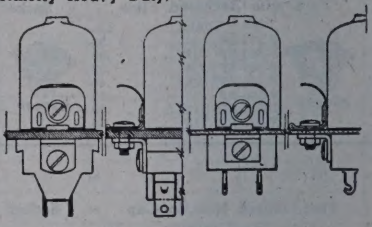
No.	Contacts	Ea.
S-402-CCE	(2)	$ .75
S-404-CCE	(4)	.95
S-406-CCE	(6)	1.15
S-408-CCE	(8)	1.35
S-410-CCE	(10)	1.55
S-412-CCE	(12)	1.75

LOCKS FOR 400 SERIES PLUGS AND SOCKETS
(Formerly Heavy Duty)



ILLUSTRATING No. 93 LOCK
May be attached to any 400 Series plug for extension cables. If plugs are ordered with this lock, specify "with No. 93 locks."

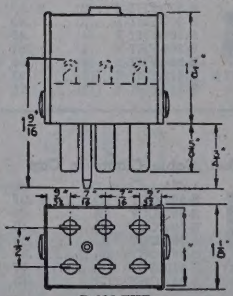
No. 93 Lock when attached to plug, add to list per pair .... $ .30
No. 93 Locks ONLY per pair .... .30



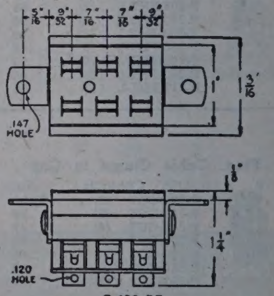
ILLUSTRATING No. 63 LOCK. May be used on all panel mount 400 Series plugs and sockets when surface is flush with top of panel. Cannot be used on type DB plugs.

No. 63 Locks ONLY, per pair .... $ .30

Dimensions of 400 Series Plugs and Sockets



P-406-FHT



S-406-AB

HOWARD B. JONES COMPANY ★ ELECTRICAL CONNECTING DEVICES

"500" SERIES PLUGS AND SOCKETS

For Complete Listing of 500 SERIES, Write for No. 500 Catalog

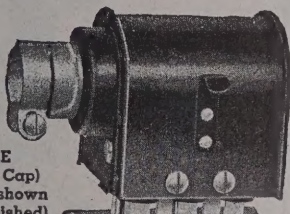
Designed for 5,000 volts and 25 amperes per contact. Circuit characteristics, however, may altar this rating one way or the other.

Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.

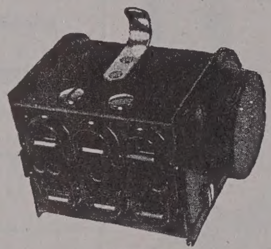
All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.

Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section $\frac{5}{16}''\text{x}\frac{3}{32}''$.

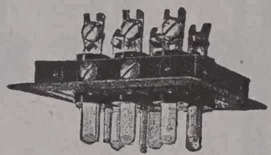
IMPORTANT: For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.



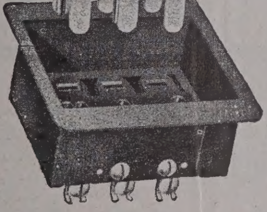
P-506-CE
(Plug with Cap)
(BX Clamp shown but not furnished)



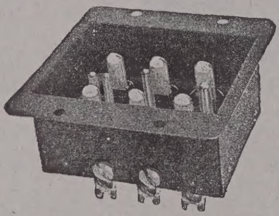
S-506-CE
(Socket with Cap)



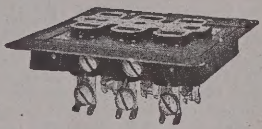
P-506-SB
(Plug with Shallow Bracket)



S-506-DB
(Socket with Deep Bracket)

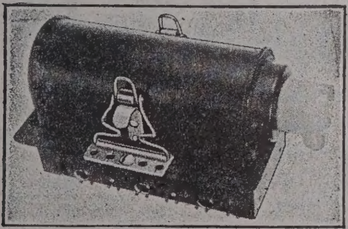


P-506-DB
(Plug with Deep Bracket)



S-506-SB
(Socket with Shallow Bracket)

LOCKS FOR 500 SERIES PLUGS AND SOCKETS



Locks shown above are used in connection with any DEEP BRACKET and cap combination.

The locks securely hold the units together, but they can be released instantly.

The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.

No. 500-L locks..**Per pair $ .75**

PLUG

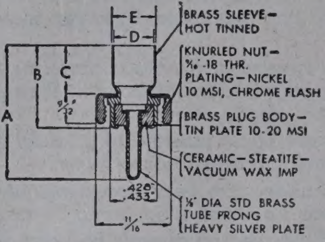
With Cap		With Deep Bracket		With Shallow Bracket	
Code	Price Ea.	Code	Price Ea.	Code	Price Ea.
P-502-CE	**$2.00**	**P-502-DB**	**$1.75**	**P-502-SB**	**$1.75**
P-504-CE	**2.85**	**P-504-DB**	**2.50**	**P-504-SB**	**2.50**
P-506-CE	**3.70**	**P-506-DB**	**3.25**	**P-506-SB**	**3.25**
P-508-CE	**4.55**	**P-508-DB**	**4.00**	**P-508-SB**	**4.00**
P-510-CE	**5.40**	**P-510-DB**	**4.75**	**P-510-SB**	**4.75**
P-512-CE	**6.25**	**P-512-DB**	**5.50**	**P-512-SB**	**5.50**

SOCKET

With Cap		With Deep Bracket		With Shallow Bracket	
Code	Price Ea.	Code	Price Ea.	Code	Price Ea.
S-502-CE	**$2.00**	**S-502-DB**	**$1.75**	**S-502-SB**	**$1.75**
S-504-CE	**2.85**	**S-504-DB**	**2.50**	**S-504-SB**	**2.50**
S-506-CE	**3.70**	**S-506-DB**	**3.25**	**S-506-SB**	**3.25**
S-508-CE	**4.55**	**S-508-DB**	**4.00**	**S-508-SB**	**4.00**
S-510-CE	**5.40**	**S-510-DB**	**4.75**	**S-510-SB**	**4.75**
S-512-CE	**6.25**	**S-512-DB**	**5.50**	**S-512-SB**	**5.50**

SERIES 101 PLUGS

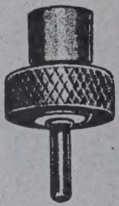
The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal parts are of brass. These Plugs fit all of the No. 101 Series Sockets. Assembly meets Navy Specifications. A low loss Plug and Socket ideal for high frequency connections.

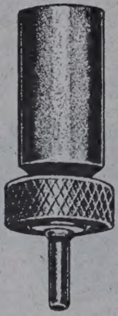

E
D
A
B
C
9/32
.426"
.433"
11/16
BRASS SLEEVE—HOT TINNED
KNURLED NUT—5/8"-18 THR. PLATING—NICKEL 10 MSI, CHROME FLASH
BRASS PLUG BODY—TIN PLATE 10-20 MSI
CERAMIC—STEATITE—VACUUM WAX IMP
1/8" DIA STD BRASS TUBE PRONG HEAVY SILVER PLATE

Code No.	A	B	C	D	E	Ea.
P-101-1/4"	1-1/4"	3/4"	7/16"	1/4"	9/32"	$0.45
P-101-5/16"	1-3/8"	7/8"	9/16"	5/16"	11/32"	.55
P-101-3/8"	1-3/16"	11/16"	3/8"	3/8"	13/32"	.55
P-101-1/2"	1-7/8"	1-3/8"	1-1/16"	1/2"	9/16"	.60

P-101-1/4"

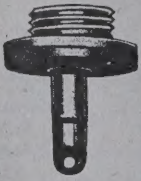
P-101-5/16"

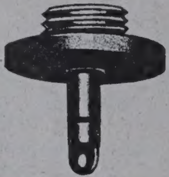

P-101-3/8"

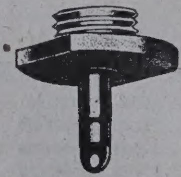

P-101-1/2"

SERIES 101 SOCKETS

The No. 101 Series Sockets are furnished in three types as shown below. Base is of Brass, Nickel Plated with Chrome Flash. Brass contact is Silver Plated. Insulation of low loss natural color XXX Bakelite. Meets Navy Specifications. The S-101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101—No. 41 drill on 11/16" centers. Mounting holes No. 101-D and 101-D Mod. No. 30 drill on 13/16" centers.


S-101
Price Each............$0.40


S-101-D
Price Each $0.60


S-101-D Mod
Price Each $0.60

(Above Illustrations are Actual Size)

SERIES 201

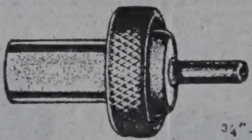
PLUGS

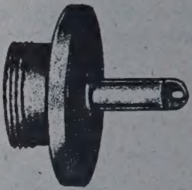
The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger. Made in one size only with 3/8" ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length 1 9/16" Prong diameter 5/32" Fits only the 201 Socket.

SOCKETS

The 201 Socket is similar to the S-101-D except larger. Brass base is nickel plated with Chrome Flash. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite. Both Plug and Socket meet Navy Specifications.

Mounting holes—No. 30 drill on 1" centers.





3/4"—27 thread.

Code	Ea.
P-201-3/8"	**$0.70**

Code	Ea.
S-201	**$0.75**

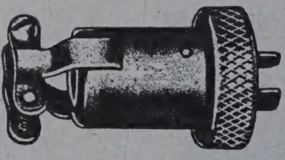
SERIES 202

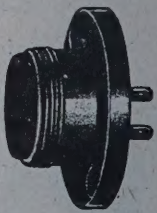
PLUGS

SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only. Metal parts are of Brass with burnished Cadmium Plate. Insulation is of Molded Bakelite. Phosphor Bronze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts—double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has 3/4"—27 thread.

Socket Mounting Holes. No. 30 drill on 1" centers.





P-202-CCT...... **$0.55** (as shown above)

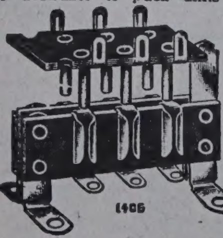
P-202-FHT......... **$0.45** (without Cable Clamps)

S-202-B............**$0.65**

1400 SERIES PLUGS AND SOCKETS

This series of "disconnect" plugs and sockets has the distinct advantage of low cost for a separable unit handling many circuits. Due to exposed metal parts, it is recommended for use when the complete unit is within a housing.

Reduces costs of servicing units. Advantageous in shipping when it is desirable to pack units separately. Polarized—assures correct coupling. Spring temper brass sockets assure perfect contact. Standard units are listed below from 5 to 16 contacts. However, we can supply units having as many as 30 or more contacts. On No. 1420 or larger we recommend the plug be divided into two or more units, as a single long plug is not mechanically strong. The socket will be made in one assembly.


1406

No.	Contacts	Ea.	No.	Contacts	Ea.
No. 1405	**(5 Contacts)**	**Ea. $0.28**	**No. 1411**	**(11 Contacts)**	**Ea. $0.52**
No. 1406	**(6 Contacts)**	**Ea. .32**	**No. 1412**	**(12 Contacts)**	**Ea. .56**
No. 1407	**(7 Contacts)**	**Ea. .36**	**No. 1413**	**(13 Contacts)**	**Ea. .60**
No. 1408	**(8 Contacts)**	**Ea. .40**	**No. 1414**	**(14 Contacts)**	**Ea. .64**
No. 1409	**(9 Contacts)**	**Ea. .44**	**No. 1415**	**(15 Contacts)**	**Ea. .68**
No. 1410	**(10 Contacts)**	**Ea. .48**	**No. 1416**	**(16 Contacts)**	**Ea. .72**

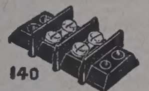
For units with more than 16 contacts, add 4c to the No. 1416 price for each additional contact.

Nos. 140 AND 150 SERIES SCREW TERMINAL BARRIER STRIPS

A new terminal strip that fills a long felt want. Has thousands of applications. Increased insulation is provided by having barriers placed between each terminal. These barriers follow around the edge of the strip and terminate with the base. The barriers not only make a long leakage path, but prevent direct shorts from frayed wires at the terminals. Mounting holes are at the ends as illustrated. The terminals and binder screws are of brass, nickel plated. Insulation is molded Bakelite. White characters may be imprinted on the edges of the strip between the barriers and directly below the terminals.

No. 140 TERMINAL STRIPS

⅞″ wide by $\frac{13}{32}$″ high. Terminals are mounted on ⅜″ centers. Screws: 5-40x$\frac{3}{16}$″ brass, burnished nickel plate. Metal to metal spacing over bakelite ¼″.



140

MAXIMUM NUMBER OF TERMINALS—21

These terminal strips can be furnished with the W-140 solder terminals listed below, by adding the affix W to the code numbers at the right. Add price of W-140 terminals to the price of the terminal strip. For exampʼə: 4-140-W will cost **33c** plus **12c** or **45c** each.

Code		Ea.
No. 2-140	(2 Terminals)	$.19
No. 3-140	(3 Terminals)	.26
No. 4-140	(4 Terminals)	.33
No. 5-140	(5 Terminals)	.40
No. 6-140	(6 Terminals)	.47
No. 7-140	(7 Terminals)	.54
No. 8-140	(8 Terminals)	.61
No. 9-140	(9 Terminals)	.68
No. 10-140	(10 Terminals)	.75

For terminal strips with more than 10 terminals (maximum 21), add **7c** to the No. 10-140 price for each additional terminal.

No. 141 TERMINAL STRIPS

1⅛″ wide by ½″ high. Terminals mounted on $\frac{7}{16}$″ centers. Screws: 6-32x ¼″ brass, nickel plated. Metal to metal spacing over bakelite ⅜″.

141

MAXIMUM NUMBER OF TERMINALS—20

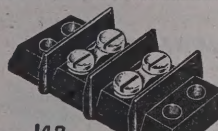
These terminal strips can be furnished with the W-141 solder terminals listed below, by adding the affix W to the code numbers at the right. Add price of W-141 terminals to the price of the terminal strip. For example: 2-141-W will cost **24c** plus **8c** or **32c** each.

Code		Ea.
No. 2-141	(2 Terminals)	$.24
No. 3-141	(3 Terminals)	.33
No. 4-141	(4 Terminals)	.42
No. 5-141	(5 Terminals)	.51
No. 6-141	(6 Terminals)	.60
No. 7-141	(7 Terminals)	.69
No. 8-141	(8 Terminals)	.78
No. 9-141	(9 Terminals)	.87
No. 10-141	(10 Terminals)	.96

For terminal strips with more than 10 terminals (maximum 20), add **9c** to the No. 10-141 price for each additional terminal.

No. 142 TERMINAL STRIPS

1$\frac{5}{16}$″ wide by ⅝″ high. Terminals are mounted on $\frac{9}{16}$″ centers. Screws: 8-32 x $\frac{5}{16}$″ brass, burnished nickel plate. Metal to metal spacing over bakelite $\frac{9}{16}$″.



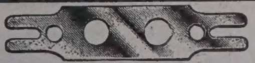
142

MAXIMUM NUMBER OF TERMINALS—17

These terminal strips can be furnished with the W-142 solder terminals listed below, by adding the affix W to the code numbers at the right. Add price of W-142 terminals to the price of the terminal strip. For example: 3-142-W will cost **40c** plus **15c** or **55c** each.

Code		Ea.
No. 2-142	(2 Terminals)	$.29
No. 3-142	(3 Terminals)	.40
No. 4-142	(4 Terminals)	.51
No. 5-142	(5 Terminals)	.62
No. 6-142	(6 Terminals)	.73
No. 7-142	(7 Terminals)	.84
No. 8-142	(8 Terminals)	.95
No. 9-142	(9 Terminals)	1.06
No. 10-142	(10 Terminals)	1.17

For terminal strips with more than 10 terminals (maximum 17), add **11c** to the No. 10-142 price for each additional terminal.

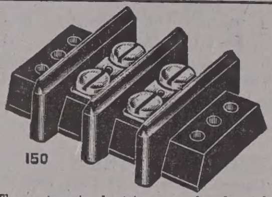


SOLDER TERMINALS FOR BARRIER STRIPS

These solder terminals are for use only with our barrier strips where solder connections are desired on both sides of the terminal strip. The solder tip is designed to accommodate one or more wires. The binder screws of the barrier strip anchor these terminals securely in place.

Code	Stock Tin Plated	Overall Length	For use with Barrier Strip	Per 100
No. W-140	**.036 Brass**	**1$\frac{7}{32}$″**	No. 140	**$ 3.00**
No. W-141	**.036 Brass**	**1$\frac{9}{16}$″**	No. 141	**4.00**
No. W-142	**.036 Brass**	**1⅞″**	No. 142	**5.00**
No. W-150	**.062 Brass**	**2$\frac{3}{16}$″**	No. 150	**7.00**
No. W-151	**.062 Brass**	**2½″**	No. 151	**12.00**
No. W-152	**.062 Brass**	**3″**	No. 152	**18.00**

No. 150 TERMINAL STRIPS



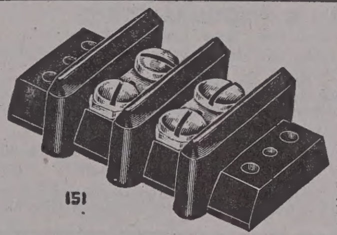
150

1$\frac{13}{16}$″ wide by $\frac{25}{32}$″ high. Terminals are mounted on $\frac{11}{16}$″ centers. Screws: 10-32 x $\frac{5}{16}$″ brass, burnished nickel plate. Fits standard 50 Amp. solder lug for 6 Ga. stranded wire. Metal to metal spacing over bakelite ⅝″.

These terminal strips can be furnished with the W-150 solder terminals listed below, by adding the affix W to the code numbers below. Add price of W-150 terminals to the price of the terminal strip. For example: 2-150-W will cost **75c** plus **14c** or **89c** each.

Code		Ea.
No. 2-150	(2 Terminals)	$ .75
No. 3-150	(3 Terminals)	1.05
No. 4-150	(4 Terminals)	1.35
No. 5-150	(5 Terminals)	1.65
No. 6-150	(6 Terminals)	1.95
No. 7-150	(7 Terminals)	2.25
No. 8-150	(8 Terminals)	2.55
No. 9-150	(9 Terminals)	2.85
No. 10-150	(10 Terminals)	3.15

No. 151 TERMINAL STRIPS



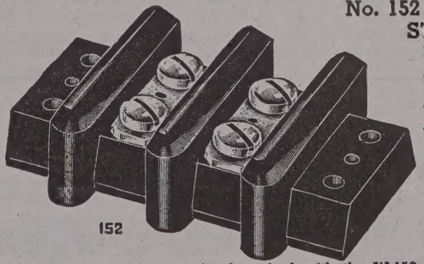
151

2″ wide by $\frac{15}{16}$″ high. Terminals are mounted on ⅞″ centers. Screws: 12-32 x ⅜″ brass, burnished nickel plate. Fits standard 70 Amp. solder lug for 4 Ga. stranded wire. Metal to metal spacing over bakelite ¾″.

These terminal strips can be furnished with the W-151 solder terminals listed below, by adding the affix W to the code numbers below. Add price of W-151 terminals to the price of the terminal strip. For example: 5-151-W will cost **$3.15** plus **60c** or **$3.75** each.

Code		Ea.
No. 2-151	(2 Terminals)	$1.35
No. 3-151	(3 Terminals)	1.95
No. 4-151	(4 Terminals)	2.55
No. 5-151	(5 Terminals)	3.15
No. 6-151	(6 Terminals)	3.75
No. 7-151	(7 Terminals)	4.35
No. 8-151	(8 Terminals)	4.95

No. 152 TERMINAL STRIPS

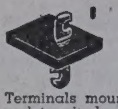


152

2½″ wide by 1⅛″ high. Terminals are mounted on 1⅛″ centers. Screws: ¼″-28 x ½″ brass, burnished nickel plate. Fits standard 90 Amp. solder lug for 2 Ga. stranded wire. Metal to metal spacing over bakelite 1″.

These terminal strips can be furnished with the W-152 solder terminals listed at the left, by adding the affix W to the code numbers below. Add price of W-152 terminals to the price of the terminal strip. For example: 3-152-W will cost $2.80 plus 54c or $3.34 each.

Code		Ea.
No. 2-152	(2 Terminals)	$1.90
No. 3-152	(3 Terminals)	2.80
No. 4-152	(4 Terminals)	3.70
No. 5-152	(5 Terminals)	4.60
No. 6-152	(6 Terminals)	5.50



NO. 1 TERMINAL STRIPS

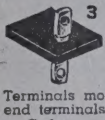
Terminal ⅛" Round Copper, Flattened at Ends, Tin Plated

A convenient and compact strip where solder connections are desired.

Insulation: Canvas Base Bakelite, ½" wide, 3/32" thick. Terminals mounted on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-1	**(2 Terminals)**	**$ .07**	**No. 5-1**	**(5 Terminals)**	**$ .10**
No. 3-1	**(3 Terminals)**	**.08**	**No. 6-1**	**(6 Terminals)**	**.11**
No. 4-1	**(4 Terminals)**	**.09**			

For terminal strips with more than 6 terminals, add **1c** to the No. 6-1 price for each additional terminal.



NO. 3 TERMINAL STRIPS

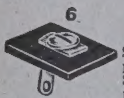
Terminal ⅛" Round Copper, Flattened at Each End, Tin Plated

Similar to No. 1, except closer spacing and furnished with holes instead of hooks.

Insulation: Canvas base Bakelite, 5/16" wide, 3/32" thick. Terminals mounted on ¼" centers. Mounting holes 3/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-3	**(2 Terminals)**	**$0.09**	**No. 5-3**	**(5 Terminals)**	**$0.12**
No. 3-3	**(3 Terminals)**	**.10**	**No. 6-3**	**(6 Terminals)**	**.13**
No. 4-3	**(4 Terminals)**	**.11**			

For terminal strips with more than 6 terminals, add **1½c** to the No. 6-3 price for each additional terminal.



NO. 6 TERMINAL STRIPS

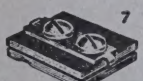
Terminal .046" Brass, Cadmium Plated

Screw and solder terminal. Substantial and reasonably priced.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ¾" wide, 3/32" thick. Terminals spaced on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-6	**(2 Terminals)**	**$ .11**	**No. 5-6**	**(5 Terminals)**	**$ .20**
No. 3-6	**(3 Terminals)**	**.14**	**No. 6-6**	**(6 Terminals)**	**.23**
No. 4-6	**(4 Terminals)**	**.17**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-6 price for each additional terminal.



NO. 7 TERMINAL STRIPS

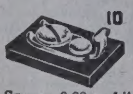
Terminal .046" Brass, Burnished Nickel Plate

A two screw insulated terminal strip that can be mounted directly on metal surface.

Screws: 6-32 x 3/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, 3/16" thick (total). Terminals mounted on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-7	**(2 Terminals)**	**$ .16**	**No. 5-7**	**(5 Terminals)**	**$ .37**
No. 3-7	**(3 Terminals)**	**.23**	**No. 6-7**	**(6 Terminals)**	**.44**
No. 4-7	**(4 Terminals)**	**.30**			

For terminal strips with more than 6 terminals, add **7c** to the No. 6-7 price for each additional terminal.



NO. 10 TERMINAL STRIPS

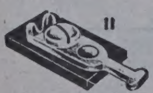
Terminal 1/16" Brass, Tin Plated

Sturdy screw and solder terminal with both screw and solder connections on top of bakelite panel. Solder terminal turned up.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅝" wide, 3/32" thick. Terminals spaced on ⅝" **centers.** Mounting holes ⅝" from center of end terminals. Will take up to No. 15 B & S gauge **wire** (.057").

Code		Ea.	Code		Ea.
No. 2-10	**(2 Terminals)**	**$ .16**	**No. 5-10**	**(5 Terminals)**	**$ .40**
No. 3-10	**(3 Terminals)**	**.24**	**No. 6-10**	**(6 Terminals)**	**.48**
No. 4-10	**(4 Terminals)**	**.32**			

For terminal strips with more than 6 terminals, add **8c** to the No. 6-10 price for each additional terminal.



NO. 11 TERMINAL STRIPS

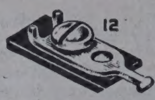
Terminal 1/16" Brass, Tin Plated

Similar to No. 10, except larger in size and the solder tab is flat, but will be bent up, if specified.

Screws: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, ⅛" thick. Terminals mouhted on ¾" centers. Mounting holes ¾" from center of end terminals. Will take up to No. 12 B & S gauge wire (.080").

Code		Ea.	Code		Ea.
No. 2-11	**(2 Terminals)**	**$ .20**	**No. 5-11**	**(5 Terminals)**	**$ .47**
No. 3-11	**(3 Terminals)**	**.29**	**No. 6-11**	**(6 Terminals)**	**.56**
No. 4-11	**(4 Terminals)**	**.38**			

For terminal strips with more than 6 terminals, add **9c** to the No. 6-11 price for each additional terminal.



NO. 12 TERMINAL STRIPS

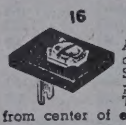
Terminal 1/16" Brass, Tin Plated

Similar to No. 11, except larger. Solder tab is flat, but will be bent up, if specified.

Screw: 10-32 x ⅜" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, 3/16" thick. Terminals mounted on ⅞" centers. Mounting holes ⅞" from center of end terminals. Will take up to No. 9 B & S gauge **wire (.114").**

Code		Ea.	Code		Ea.
No. 2-12	**(2 Terminals)**	**$ .29**	**No. 5-12**	**(5 Terminals)**	**$ .68**
No. 3-12	**(3 Terminals)**	**.42**	**No. 6-12**	**(6 Terminals)**	**.81**
No. 4-12	**(4 Terminals)**	**.55**			

For terminal strips with more than 6 terminals, add **13c** to the No. 6-12 price for each additional terminal.



NO. 16 TERMINAL STRIPS

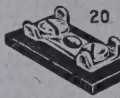
Terminal .028" Brass, Cadmium Plated

A popular priced screw and solder terminal with many desirable features.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ¾" wide, 3/16" thick. Terminals spaced on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-16	**(2 Terminals)**	**$ .10**	**No. 5-16**	**(5 Terminals)**	**$ .19**
No. 3-16	**(3 Terminals)**	**.13**	**No. 6-16**	**(6 Terminals)**	**.22**
No. 4-16	**(4 Terminals)**	**.16**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-16 price for each additional terminal.



NO. 20 TERMINAL STRIPS

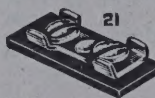
Terminal 1/16" Brass, Burnished Nickel Plate

Strong two screw terminal with ears to hold wire securely under screw.

Screws: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, 3/32" thick. Terminals mounted on ⅝" centers. Mounting holes ⅝" from center of end terminals. Will take up to No. 13 B & S gauge wire (.071").

Code		Ea.	Code		Ea.
No. 2-20	**(2 Terminals)**	**$ .22**	**No. 5-20**	**(5 Terminals)**	**$ .55**
No. 3-20	**(3 Terminals)**	**.33**	**No. 6-20**	**(6 Terminals)**	**.66**
No. 4-20	**(4 Terminals)**	**.44**			

For terminal strips with more than 6 terminals, add **11c** to the No 6-20 price for each additional terminal.



NO. 21 TERMINAL STRIPS

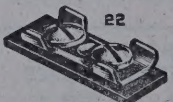
Terminal 1/16" Brass, Burnished Nickel Plate

Similar to No. 20, except larger.

Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1⅛" wide, ⅛" thick. Terminals mounted on ¾" centers. Mounting holes ¾" from center of end terminals. Will take up to No. 11 B & S gauge wire (.090").

Code		Ea.	Code		Ea.
No. 2-21	**(2 Terminals)**	**$ .29**	**No. 5-21**	**(5 Terminals)**	**$ .68**
No. 3-21	**(3 Terminals)**	**.42**	**No. 6-21**	**(6 Terminals)**	**.81**
No. 4-21	**(4 Terminals)**	**.55**			

For terminal strips with more than 6 terminals, add **13c** to the No. 6-21 price for each additional terminal.



NO. 22 TERMINAL STRIPS

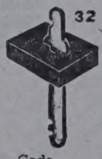
Terminal 1/16" Brass, Burnished Nickel Plate

Similar to No. 21, except larger.

Screws: 10-32 x ⅜" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1¼" wide, 3/16" thick. Terminals mounted on ⅞" centers. Mounting holes ⅞" from center of end terminals. Will take up to No. 8 B & S gauge wire (.128").

Code		Ea.	Code		Ea.
No. 2-22	**(2 Terminals)**	**$ .40**	**No. 5-22**	**(5 Terminals)**	**$ .88**
No. 3-22	**(3 Terminals)**	**.56**	**No. 6-22**	**(6 Terminals)**	**1.04**
No. 4-22	**(4 Terminals)**	**.72**			

For terminal strips with more than 6 terminals, add **16c** to the No. 6-22 price for each additional terminal.



No. 32 TERMINAL STRIPS

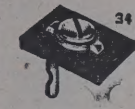
Terminal .050" Brass, Tin Plated

An ideal terminal strip (solder type) for medium heavy wiring. One or more wires may be connected to this terminal.

Insulation: XX Bakelite, ⅝" wide, ¼" thick. Terminals mounted on 5/16" centers. Mounting holes 5/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-32	**(2 Terminals)**	**$ .16**	**No. 5-32**	**(5 Terminals)**	**$ .37**
No. 3-32	**(3 Terminals)**	**.23**	**No. 6-32**	**(6 Terminals)**	**.44**
No. 4-32	**(4 Terminals)**	**.30**			

For terminal strips with more than 6 terminals add **7c** to the No. 6-32 price for each additional terminal.



NO. 34 TERMINAL STRIPS

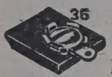
Terminal .062" Brass, Cadmium Plated

Very substantial and neat appearing terminal. Ample length solder terminal below panel, with screw connection above.

Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-34	**(2 Terminals)**	**$ .15**	**No. 5-34**	**(5 Terminals)**	**$ .27**
No. 3-34	**(3 Terminals)**	**.19**	**No. 6-34**	**(6 Terminals)**	**.31**
No. 4-34	**(4 Terminals)**	**.23**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-34 price for each additional terminal.



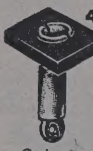
NO. 36 TERMINAL STRIPS

Terminal .031" Brass, Cadmium Plated

A popular priced screw and solder terminal with both screw and solder tab on same side of bakelite panel. Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 5/8" wide, 1/16" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-36	**(2 Terminals)**	**S .10**	**No. 5-36**	**(5 Terminals)**	**$ .19**
No. 3-36	**(3 Terminals)**	**.13**	**No. 6-36**	**(6 Terminals)**	**.22**
No. 4-36	**(4 Terminals)**	**.16**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-36 price for each additional terminal.



NO. 42 TERMINAL STRIPS

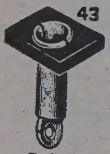
Terminal, Hard Brass, Silver Plated

Similar in construction to No. 53. Takes 1/8" prong. May be used with No. 99 terminal strips (same terminal spacing).

Insulation: XP Bakelite, 1/2" wide, 3/32" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-42	**(2 Terminals)**	**$ .16**	**No. 5-42**	**(5 Terminals)**	**$ .25**
No. 3-42	**(3 Terminals)**	**.19**	**No. 6-42**	**(6 Terminals)**	**.28**
No. 4-42	**(4 Terminals)**	**.22**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-42 price for each additional terminal.



NO. 43 TERMINAL STRIPS

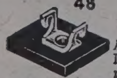
Terminal, Hard Brass, Silver Plated

Same as No. 42, except that it takes 5/32" prongs May be used with No. 100 terminal strips.

Insulation: XP Bakelite, 5/8" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-43	**(2 Terminals)**	**$ .19**	**No. 5-43**	**(5 Terminals)**	**$ .31**
No. 3-43	**(3 Terminals)**	**.23**	**No. 6-43**	**(6 Terminals)**	**.35**
No. 4-43	**(4 Terminals)**	**.27**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-43 price for each additional terminal.



NO. 48 TERMINAL STRIPS

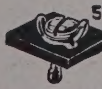
Terminal .028" Brass, Tin Plated

A low priced double solder terminal.

Insulation: XP Bakelite, 1/2" wide, 1/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-48	**(2 Terminals)**	**$ .06**	**No. 5-48**	**(5 Terminals)**	**$ .12**
No. 3-48	**(3 Terminals)**	**.08**	**No. 6-48**	**(6 Terminals)**	**.14**
No. 4-48	**(4 Terminals)**	**.10**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-48 price for each additional terminal.



NO. 50 TERMINAL STRIPS

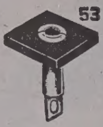
Terminal .062" Brass, Cadmium Plated

One of the most popular screw and solder terminals. Made of heavy stock with ears to firmly hold wires under screw.

Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-50	**(2 Terminals)**	**S· .15**	**No. 5-50**	**(5 Terminals)**	**$ .27**
No. 3-50	**(3 Terminals)**	**.19**	**No. 6-50**	**(6 Terminals)**	**.31**
No. 4-50	**(4 Terminals)**	**.23**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-50 price for each additional terminal.



NO. 53 TERMINAL STRIPS

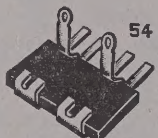
Terminal, Spring Temper Brass, Cadmium Plated

A reliable socket type contact for many uses. Takes 3/32" prongs. May be used with No. 98 terminal strips (same terminal spacing).

Insulation: XP Bakelite, 3/8" wide, 1/16" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-53	**(2 Terminals)**	**$ .14**	**No. 5-53**	**(5 Terminals)**	**$ .20**
No. 3-53	**(3 Terminals)**	**.16**	**No. 6-53**	**(6 Terminals)**	**.22**
No. 4-53	**(4 Terminals)**	**.18**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-53 price for each additional terminal.



NO. 54 TERMINAL STRIPS

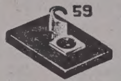
Terminal .032" Brass, Cadmium Plated

Spade terminal for cable harness. Convenient to use in connection with No. 6 terminal strips.

Insulation: XP Bakelite, 1/2" wide, 1/16" thick. Terminals mounted on 1/2" centers.

Code		Ea.	Code		Ea.
No. 2-54	**(2 Terminals)**	**$ .05**	**No. 5-54**	**(5 Terminals)**	**$ .11**
No. 3-54	**(3 Terminals)**	**.07**	**No. 6-54**	**(6 Terminals)**	**.13**
No. 4-54	**(4 Terminals)**	**.09**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-54 price for each additional terminal.



NO. 59 TERMINAL STRIPS

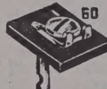
Terminal .028" Brass, Tin Plated

An inexpensive solder terminal. One wire may be brought up through hole and soldered, leaving vertical tab for other connection.

Insulation: XP Bakelite, 3/8" wide, 1/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-59	**(2 Terminals)**	**$ .06**	**No. 5-59**	**(5 Terminals)**	**$ .12**
No. 3-59	**(3 Terminals)**	**.08**	**No. 6-59**	**(6 Terminals)**	**.14**
No. 4-59	**(4 Terminals)**	**.10**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-59 price for each additional terminal.



NO. 60 TERMINAL STRIPS

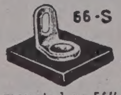
Terminal .050" Brass, Cadmium Plated

Screw terminal above panel—solder terminal below. Solder tab is notched.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick. Terminals spaced on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-60	**(2 Terminals)**	**$ .13**	**No. 5-60**	**(5 Terminals)**	**$ .25**
No. 3-60	**(3 Terminals)**	**.17**	**No. 6-60**	**(6 Terminals)**	**.29**
No. 4-60	**(4 Terminals)**	**.21**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-60 price for each additional terminal.



NO. 66-S TERMINAL STRIPS

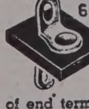
Terminal .032" Hard Brass, Cadmium Plated

A heavy solder terminal with large oval hole for several wires.

Insulation: XP Bakelite, 3/4" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-66-S	**(2 Terminals)**	**$ .07**	**No. 5-66-S**	**(5 Terminals)**	**$ .13**
No. 3-66-S	**(3 Terminals)**	**.09**	**No. 6-66-S**	**(6 Terminals)**	**.15**
No. 4-66-S	**(4 Terminals)**	**.11**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-66-S price for each additional terminal.



NO. 66-D TERMINAL STRIPS

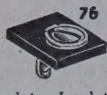
Terminal .032" Hard Brass, Cadmium Plated

Two No. 66 terminals mounted on opposite sides of panel and riveted together by solid rivet. Ideal strip for heavy work.

Insulation: XP Bakelite, 3/4" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-66-D	**(2 Terminals)**	**$ .08**	**No. 5-66-D**	**(5 Terminals)**	**$ .17**
No. 3-66-D	**(3 Terminals)**	**.11**	**No. 6-66-D**	**(6 Terminals)**	**.20**
No. 4-66-D	**(4 Terminals)**	**.14**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-66-D price for each additional terminal.



NO. 76 TERMINAL STRIPS

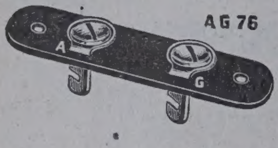
Terminal .028" Brass, Cadmium Plated

Cup shaped top holds wire securely under screw. A compact and good appearing terminal.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ¾" wide, 1/16" thick. Terminals spaced on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-76	**(2 Terminals)**	**$ .11**	**No. 5-76**	**(5 Terminals)**	**$ .20**
No. 3-76	**(3 Terminals)**	**.14**	**No. 6-76**	**(6 Terminals)**	**.23**
Nº. 4-76	**(4 Terminals)**	**.17**			

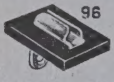
For terminal strips with more than 6 terminals, add **3c** to the No. 6-76 price for each additional terminal.



AG-76

Standard Antenna-Ground strip using No. 76 terminals. Insulation: 1/16" Bakelite, 11/16" wide. Mounting centers 1 11/16". Ends rounded. Letters A and G are filled in white.

No. AG-76 .... Ea. $ .09



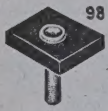
NO. 96 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated

Perhaps the most popular socket terminal ever sold. Takes standard tube prongs (No. 99 or No. 100). Furnished for No. 99 prongs (⅛") unless otherwise specified. Insulation: XP Bakelite, ⅝" wide, 1/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-96	**(2 Terminals)**	**$ .07**	**No. 5-96**	**(5 Terminals)**	**$ .13**
No. 3-96	**(3 Terminals)**	**.09**	**No. 6-96**	**(6 Terminals)**	**.15**
No. 4-96	**(4 Terminals)**	**.11**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-96 price for each additional terminal.



NO. 98 TERMINAL STRIPS

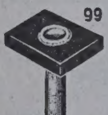
Terminal 3/32" Round, Brass, Silver Plated

Standard tube base prong of 3/32" diameter. To be used with No. 53 terminal strips.

Insulation: XP Bakelite, ⅜" wide, 1/16" thick. Terminals mounted on ⅜" centers.

Code		Ea.	Code		Ea.
No. 2-98	**(2 Terminals)**	**$ .06**	**No. 5-98**	**(5 Terminals)**	**$ .12**
No. 3-98	**(3 Terminals)**	**.08**	**No. 6-98**	**(6 Terminals)**	**.14**
No. 4-98	**(4 Terminals)**	**.10**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-98 price for each additional terminal.



NO. 99 TERMINAL STRIPS

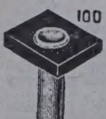
Terminal ⅛" Round, Brass, Silver Plated

Similar to No. 98, except that it is ⅛" in diameter. To be used with No. 42 terminal strips, and also with No. 96 terminal strips.

Insulation: XP Bakelite, ½" wide, 3/32" thick. Terminals mounted on ½" centers.

Code		Ea.	Code		Ea.
No. 2-99	**(2 Terminals)**	**$ .08**	**No. 5-99**	**(5 Terminals)**	**$ .17**
No. 3-99	**(3 Terminals)**	**.11**	**No. 6-99**	**(6 Terminals)**	**.20**
No. 4-99	**(4 Terminals)**	**.14**			

For terminal strips with more than 6 terminals, add **3c** to the No. 6-99 Price for each additional terminal.



NO. 100 TERMINAL STRIPS

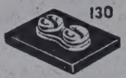
Terminal 5/32" Round, Brass, Silver Plated

Similar to No. 99, except 5/32" in diameter. To be used with No. 43 terminal strip, and No. 96 terminal strip.

Insulation: XP Bakelite, ⅝" wide, 3/32" thick. Terminals mounted on ⅝" centers.

Code		Ea.	Code		Ea.
No. 2-100	**(2 Terminals)**	**$ .12**	**No. 5-100**	**(5 Terminals)**	**$ .24**
No. 3-100	**(3 Terminals)**	**.16**	**No. 6-100**	**(6 Terminals)**	**.28**
No. 4-100	**(4 Terminals)**	**.20**			

For terminal strips with more than 6 terminals, add **4c** to the No. 6-100 price for each additional terminal.



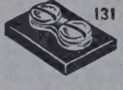
NO. 130 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

An inexpensive terminal strip with two screw terminals. Screws: 5-40 x 3/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, 1/16" thick. Terminals mounted on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-130	**(2 Terminals**	**$ .12**	**No. 5-130**	**(5 Terminals)**	**$ .30**
No. 3-130	**(3 Terminals)**	**.18**	**No. 6-130**	**(6 Terminals)**	**.36**
No. 4-130	**(4 Terminals)**	**.24**			

For terminal strips with more than 6 terminals, add **6c** to the No. 6-130 price for each additional terminal.



NO. 131 TERMINAL STRIPS

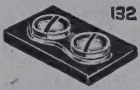
Terminals Brass, Burnished Nickel Plate

Similar to No. 130, except larger.

Screws: 6-32 x ¼" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, 3/32" thick. Terminals mounted on ⅝" centers. Mounting holes ⅝" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-131	**(2 Terminals)**	**$ .15**	**No. 5-131**	**(5 Terminals)**	**$ .36**
No. 3-131	**(3 Terminals)**	**.22**	**No. 6-131**	**(6 Terminals)**	**.43**
No. 4-131	**(4 Terminals)**	**.29**			

For terminal strips with more than 6 terminals, add **7c** to the No. 6-131 price for each additional terminal.



NO. 132 TERMINAL STRIPS

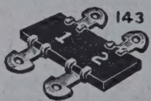
Terminals Brass, Burnished Nickel Plate

Similar to No. 131, except larger.

Screws 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1⅛" wide, ⅛" thick. Terminals mounted on ¾" centers. Mounting holes ¾" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-132	**(2 Terminals)**	**$ .18**	**No. 5-132**	**(5 Terminals)**	**$ .42**
No. 3-132	**(3 Terminals)**	**.26**	**No. 6-132**	**(6 Terminals)**	**.50**
No. 4-132	**(4 Terminals)**	**.34**			

For terminal strips with more than 6 terminals, add **8c** to the No. 6-132 price for each additional terminal.



No. 143 TERMINAL STRIPS

Terminal .040" Brass, Tin Plated

A strong two-way solder terminal. Solder tabs lie flat. Crimps securely around edges of panel.

Special Strips

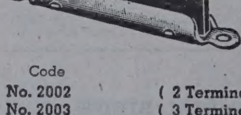
These strips can be made up special, with terminals mounted on any centers, from ⅜" up.

Standard Strips

Insulation: XP Bakelite, ⅜" wide, 3/32" thick. Terminals mounted on ½" centers. Mounting holes ½" from center of end terminals.
Terminals may be numbered or lettered in white, as illustrated. (See page 18 for imprinting cost.)

Code		Ea.	Code		Ea.
No. 2-143	**(2 Terminals)**	**$ .08**	**No. 5-143**	**(5 Terminals)**	**$ .14**
No. 3-143	**(3 Terminals)**	**.10**	**No. 6-143**	**(6 Terminals)**	**.16**
No. 4-143	**(4 Terminals)**	**.12**			

For terminal strips with more than 6 terminals, add **2c** to the No. 6-143 price for each additional terminal.



NO. 2000 TERMINAL STRIPS

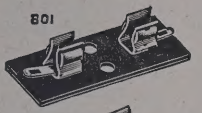
Terminals .019" Brass, Tin Plated

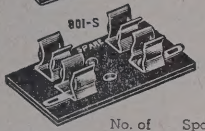
Compact and sturdy junction terminal strip. Useful in assembling radio chassis, wiring, etc.

Insulation: Bakelite. Brackets: Steel, cadmium plated. Terminals spaced on 5/16" centers.

Code		Mounting Hole Centers:	Ea.
No. 2002	**(2 Terminals)**	**1"**	**$ .05**
No. 2003	**(3 Terminals)**	**1—5/16"**	**.05**
No. 2004	**(4 Terminals)**	**1—5/8"**	**.06**
No. 2005	**(5 Terminals)**	**1—15/16"**	**.06**
No. 2006	**(6 Terminals)**	**2—1/4"**	**.07**
No. 2007	**(7 Terminals)**	**2—9/16"**	**.07**
No. 2008	**(8 Terminals)**	**2—7/8"**	**.08**
No. 2009	**(9 Terminals)**	**3—3/16"**	**.08**
No. 2010	**(10 Terminals)**	**3—1/2"**	**.09**
No. 2011	**(11 Terminals)**	**3—13/16"**	**.09**
No. 2012	**(12 Terminals)**	**4—1/8"**	**.10**
No. 2013	**(13 Terminals)**	**4—7/16"**	**.10**

FUSE MOUNTS

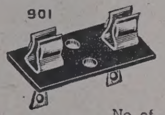




No. 800 SERIES

The 800 series fuse mounts provide solder tabs on the same side of the panel as the fuse clips. Mounts No. 3-AG fuses. An insulating strip of fibre, the same size as the bakelite panel, is furnished. Panels with clips for spare fuse have word "SPARE" imprinted on panel.

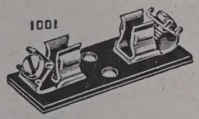
Code	No. of Fuses	Spare Fuse	Panel Size	Mounting Hole Centers	Price Each
No. 801	1	....	¾"x1 1/16"	⅜"	$ .11
No. 802	2	....	1⅛"x1 1/16"	⅜"	.18
No. 803	3	....	1⅝"x1 1/16"	⅞"	.24
No. 801-S	1	1	1⅛"x2 1/16"	⅜"	.18
No. 802-S	2	1	1⅝"x2 1/16"	⅞"	.24
No. 803-S	3	1	2⅛"x2 1/16"	⅞"	.31



No. 900 SERIES

The 900 series fuse mounts provide solder tab on the opposite side of panel to the fuse clips. Mounts No. 3-AG fuses. Panels with clips for spare fuse have word "SPARE" imprinted on panel.

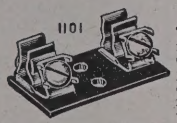
Code	No. of Fuses	Spare Fuse	Panel Size	Mounting Hole Centers	Price Each
No. 901	1	....	¾"x1 9/16"	⅜"	$ .10
No. 902	2	....	1⅛"x1 9/16"	⅜"	.17
No. 903	3	....	1⅝"x1 9/16"	⅞"	.23
No. 901-S	1	1	1⅛"x1 9/16"	⅜"	.15
No. 902-S	2	1	1⅝"x1 9/16"	⅞"	.22
No. 903-S	3	1	2⅛"x1 9/16"	⅞"	.29



No. 1000 SERIES

The 1000 series fuse mounts provide screw terminals on the same side of panel as fuse clips. Clips are mounted so that screws face ends of panel. An insulating strip of fibre, the same size as the bakelite panel, is furnished. Panels with clips for spare fuse have the word "SPARE" imprinted on panel.

Code	No. of Fuses	Spare Fuse	Panel Size	Mounting Hole Centers	Price Each
No. 1001	1	....	¾"x2 1/16"	⅜"	$ .17
No. 1002	2	....	1⅛"x2 1/16"	⅜"	.30
No. 1003	3	....	1⅝"x2 1/16"	⅞"	.42
No. 1001-S	1	1	1⅛"x2 1/16"	⅜"	.23
No. 1002-S	2	1	1⅝"x2 1/16"	⅞"	.36
No. 1003-S	3	1	2⅛"x2 1/16"	⅞"	.49

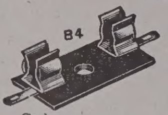


No. 1100 SERIES

The 1100 series fuse mounts provide screw terminals on the same side of panel as the fuse clips. Clips are mounted so the screws face side of panel. Mount No. 3-AG fuses. An insulating strip of fibre, the same size as bakelite panel, is furnished. Panels with clips for spare fuse have word "SPARE" imprinted on panel.

Code	No. of Fuses	Spare Fuse	Panel Size	Mounting Hole Centers	Price Each
No. 1101	1	....	⅞"x1½"	⅜"	$ .17
No. 1102	2	....	1⅝"x1½"	⅞"	.30
No. 1101-S	1	1	1⅝"x1½"	⅞"	.23
No. 1102-S	2	1	2⅛"x1½"	⅞"	.36

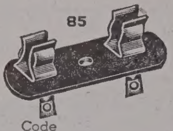
SPECIAL FUSE MOUNTS



No. 84

The No. 84 fuse mount provides solder tab on the same side of the panel as the fuse clips. Mounts No. 3-AG fuses. Similar in design to the No. 801 except that bakelite panel is of special size. Mounting hole in center of panel.

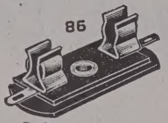
Code		Panel Size	Price Each
No. 84	Single Fuse	¾"x1⅜"	$ .09



No. 85

The No. 85 fuse mount provides solder tab on the opposite side of panel to the fuse clips. Mounts No. 3-AG fuses. Similar to No. 901 except that bakelite panel is of special size and shape. Mounting hole in exact center of panel.

Code		Panel Size	Price Each
No. 85	Single Fuse	¾"x1¾"	$ .10

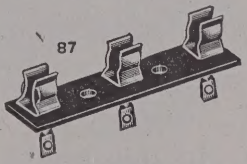


No. 86

The No. 86 fuse mount provides solder tabs on the same side of the panel as the fuse clips. Mounts No. 3-AG fuses. Bakelite strip is anchored to the terminal panel, enabling the fuse to be mounted direct on metal.

Code		Panel Size	Price Each
No. 86	Single Fuse	¾"x1¾"	$ .11

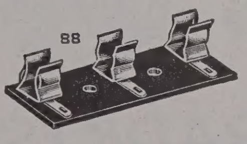
VOLTAGE REGULATOR TYPE



No. 87

The No. 87 fuse mount provides solder tabs on the opposite side of panel to the fuse clips. Mounts No. 3-AG fuses. Mounting holes are on ⅞" centers.

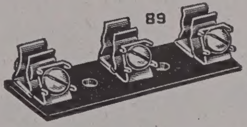
Code	Panel Size	Price Each
No. 87	¾"x2½"	$ .13



No. 88

The No. 88 fuse mount provides solder tabs on the same side of the panel as the fuse clips. Mounts No. 3-AG fuses. Mounting holes are on ⅞" centers.

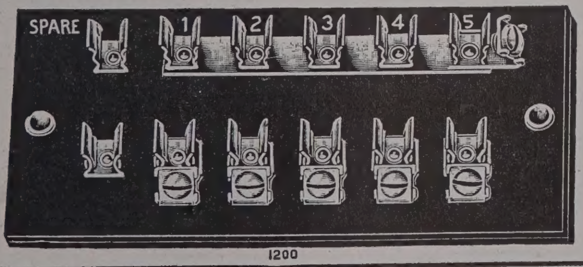
Code	Panel Size	Price Each
No. 88	⅞"x2½"	$ .14



No. 89

The No 89 fuse mount provides screw terminals on the same side of panel as fuse clips. Screws are mounted so that they face the side of panel. Mounting holes are on ⅞" centers.

Code	Panel Size	Price Each
No. 89	⅞"x2½"	$ .23



No. 1200 SERIES MULTIPLE FUSE MOUNT PANELS

The No. 1200 series presents a very convenient fuse panel arrangement for multiple circuits. One side of all the fuse mounts is common, making it convenient for wiring. Screw terminals are provided on the same side of panel as fuse clips. Mounts No. 3-AG fuses. Each panel contains a pair of clips for mounting a spare fuse. The whole assembly has a bakelite insulating plate attached so that it can be mounted directly on metal.

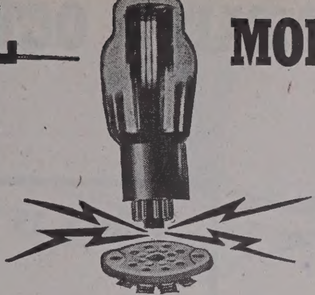
	Fuse	Spare	Panel Size	Price Each
1201-S	1	1	2¼"x2⅜"	$ .33
1202-S	2	1	2¼"x3"	.50
1203-S	3	1	2¼"x3⅝"	.67
1204-S	4	1	2¼"x4¼"	.84
1205-S	5	1	2¼"x4⅞"	1.01
1206-S	6	1	2¼"x5½"	1.18
1207-S	7	1	2¼"x6⅛"	1.35
1208-S	8	1	2¼"x6¾"	1.52
1209-S	9	1	2¼"x7⅜"	1.69
1210-S	10	1	2¼"x8"	1.86
1211-S	11	1	2¼"x8⅝"	2.03
1212-S	12	1	2¼"x9¼"	2.20
1213-S	13	1	2¼"x9⅞"	2.37
1214-S	14	1	2¼"x10½'	2.54
1215-S	15	1	2¼"x11⅛"	2.71

Thank You!

When writing for additional
information or when ordering
from sources of supply listed
in this book, please mention

RADIO'S MASTER

NATIONAL MOLDED OCTAL SOCKETS



The electronic essentials of National Fabricated Products are engineered to the highest technical standards, and designed for reliable, long-life performance. They have achieved universal acceptance over a period of long operating and manufacturing experience.

The molded socket series indicated on the illustrations of this page all employ the design incorporating an undercut groove that provides quick mounting either directly to chassis frame or to mounting bracket by means of a spring retainer ring. This design is obtainable with all specifications of molded bakelite as well as ceramic. No screws or rivets are required when this socket is mounted directly to the chassis. For direct mounting the socket is mounted directly to the chassis. For direct mounting the socket may be employed on chassis up to .093 in thickness. For thicknesses less than .093 spacer washers can be supplied to insure firm mounting.

No. 35-1-EU—This socket employs insulation of standard high dielectric black bakelite for mounting with spring retainer ring and employing in standard applications contacts of spring alloy brass, cadmium plated. The contact design in this socket is of the wrap-around type.

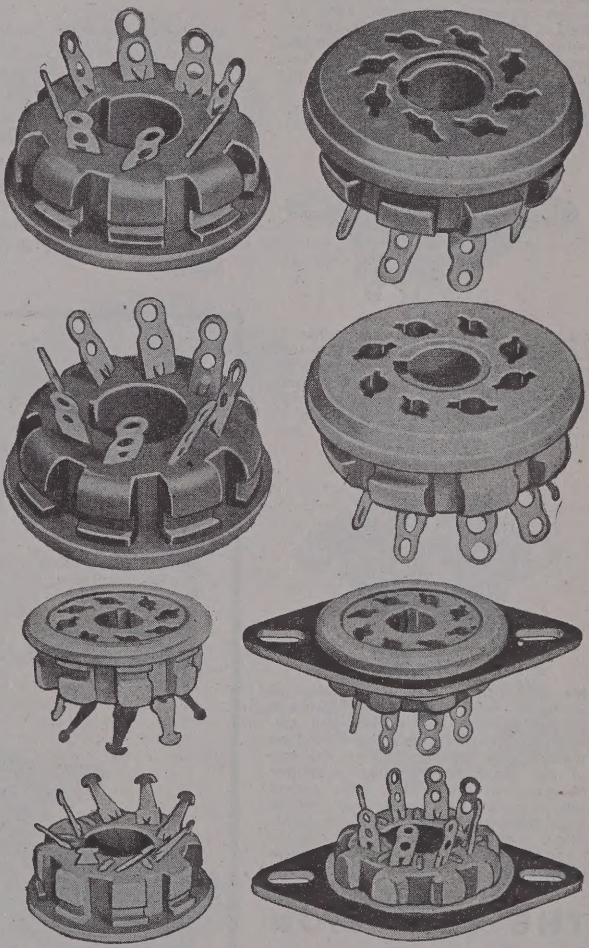
No. 40-1-EU—This socket is identical with type 35-1-EU with the exception of the contact which is of the cutting-edge design to provide minimum radio frequency resistance.

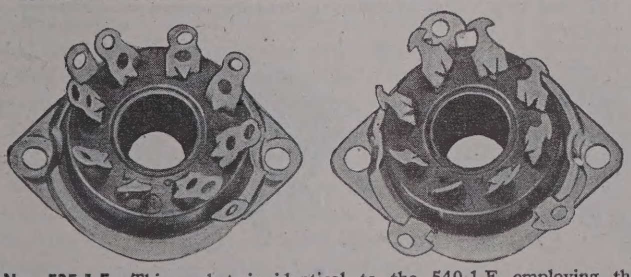
No. 35L-1-EU—This socket employs low-loss mica-filled bakelite for application in high frequency and ultra-high frequency design. The contact design in this socket is of the wrap-around type.

No. 40L-1-EU—This socket is identical with type 35L-1-EU with the exception of the contact which is of the cutting-edge design to provide minimum radio frequency resistance.

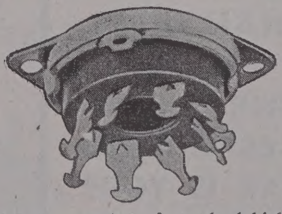
No. 35C-1-EU—This socket is of the same general design as the molded low-loss and standard black bakelite types. It employs steatite insulation that is able to withstand high temperatures, is non-hydroscopic, and has particularly low-loss factors. Due to its very high frequency and super high frequency applications, this socket is supplied in standard types with phosphor-bronze contacts, silver plated, although it may be specified with other alloy contact material. Similar to the 35L-1-EU and 40L-1-EU shown above, it is designed for mounting by spring retainer ring either directly to the chassis or to a mounting plate. The 35C-1-EU socket employs the wrap-around type contact.

No. 40C-1-EU—This is identical with the 35C-1-EU socket with the exception of the contact. In the 40C-1-EU socket the contact is of the cutting-edge type for minimum low frequency resistance between tube pins and contact.





No. 535-1-E—This socket is identical to the 540-1-E employing the crimped mounting saddle with the cutting-edge design contact instead of the wrap-around type. The illustration indicates two standard designs of solder lugs; one for threading and the spade type for wrapping of connecting wires.

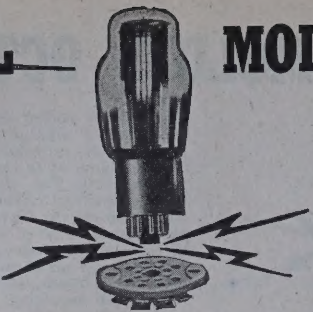


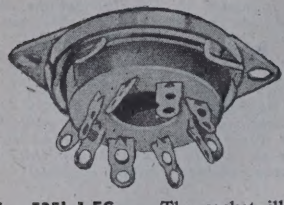
No. 540-1-E—A socket of standard high dielectric black bakelite for mounting with crimped mounting saddle and employing in standard applications spring brass alloy. Contacts, cadmium plated. The contact design in this socket is of the wrap-around type and the solder lug illustrated is of spade design.

FULL DESCRIPTIONS OF ALL SOCKETS ARE AVAILABLE IN OUR GENERAL CATALOG

National Fabricated Products, Chicago, Illinois, U. S. A.

NATIONAL MOLDED OCTAL SOCKETS

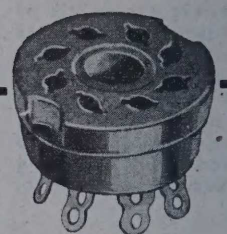




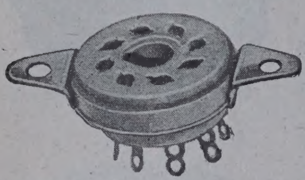
No. 535L-1-EG — The socket illustrated above is identical with the 535L-1-E shown below with the exception of the crimped-on mounting saddle providing ground lugs which are available. Crimped-on mounting saddles may be specified with one to four ground lugs to provide convenient grounding points to the chassis.

Numerous types of insulation not described in this catalogue may be employed for special applications. Those indicated here are considered standard for the low frequency, high frequency, and super-high frequency spectra. For complete socket information, refer to our general catalogue.

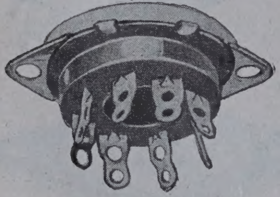
SERIES 35



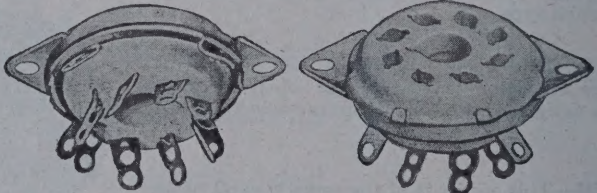
Series 35—The 35 series socket illustrated is the highly economic lug design which requires no mounting saddle or mounting plate and is secured firmly to the chassis by lugs pressed up from the chassis metal. The socket is assembled by use of a foot press or a power press, depending upon whether or not single or multiple locking of sockets is desired. Exact drawings of punches required will be sent upon request to provide the manufacturer with accurate dimensions for mounting this socket. This socket employs high dielectric black bakelite as standard insulation with wrap-around type contact in either spade solder lug or standard solder lug with holes for threading.



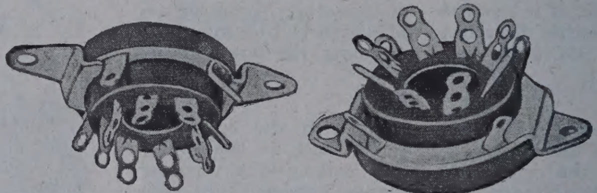
No. 35L-1-E—The 35L-1-E socket illustrated employs mica-filled low-loss insulation and may be specified with either the wrap-around or cutting-edge type contact. It is shown with pressed-on mounting plate which is available in 1½", 1$^{11}/_{16}$", 1¾" and 1$^{27}/_{32}$" mounting centers.



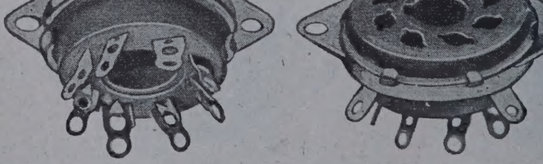
No. 535-1-EN—This type socket is identical with the 535-1-E socket shown except that it employs the crimped mounting saddle inverted so that it may be mounted on the top of the chassis for greatest economy of space in the wiring area underneath. It can be specified with either high dielectric black bakelite or mica-filled low-loss bakelite with either wrap-around or cutting-edge type contacts.



No. 35C-1-E—This socket is mounted in the crimped-on mounting saddle and employs steatite insulation and the wrap-around type contact. This socket comes in 1½" mounting centers and is particularly designed for application in the high frequency and super-high frequency spectra. Where this socket is employed in other than radio frequency applications, steatite insulation affords exceptionally high voltage breakdown where operating conditions endanger insulation due to high humidity. Contacts employed in the 35C-1-E socket for super-high frequency channels are silver-plated unless otherwise specified.



No. 35-1-E—The 35-1-E socket is identical with the 530-1-E in type of insulation, contacts available, and contact lugs available. The 35-1-E socket is mounted with the pressed-on mounting plate and may be obtained with four standard mounting centers—1½", 1$^{11}/_{16}$", 1¾" and 1$^{27}/_{32}$". Two variations in mounting centers are illustrated.



No. 535L-1-E—Is identical in design with the 535-1-E socket. Both sockets employ the same type of mounting and contact designs. The 535-1-E employs low-loss mica-filled bakelite for insulation for use in appropriate circuits. For such application the customary plating provided on contacts is silver. The crimped-on mounting saddle illustrated indicates ground lugs which may be provided for convenient chassis grounding.

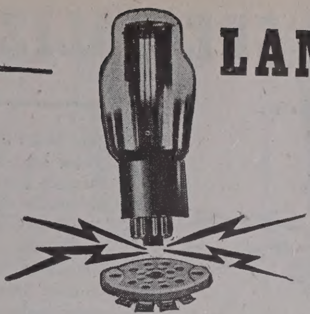
THE PRECISION WORK DONE BY NATIONAL FABRICATED PRODUCTS FOR THE ARMED SERVICES DURING THE WAR IS YOUR GUARANTEE OF PRECISION PARTS FOR PEACE - TIME MANUFACTURING.

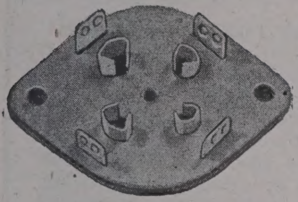
National Fabricated Products, Chicago, Illinois, U. S. A.

NATIONAL LAMINATED SOCKETS

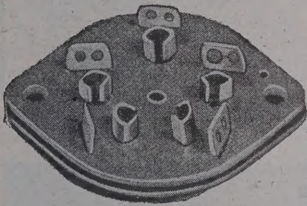
FOR GLASS AND OCTAL BASE TUBES

It is a source of great satisfaction to National Fabricated Products that their essentials for Radio and electronic application have been used on every far-flung battle front — contributing in no small measure to uninterrupted communications so important in winning quick and decisive actions.

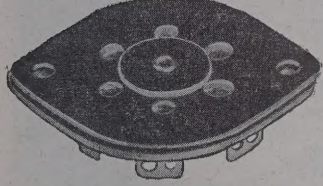




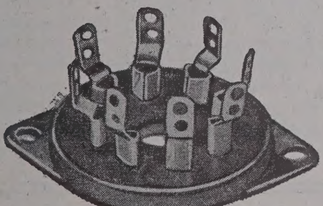
No. 43-1-A — Standard type socket with cutting-edge contacts of spring alloy brass, cadmium plated. Top plate 3/64″ laminated insulation, XX specifications. Bottom plate 3/64″, linen base laminated insulation, XX specifications.



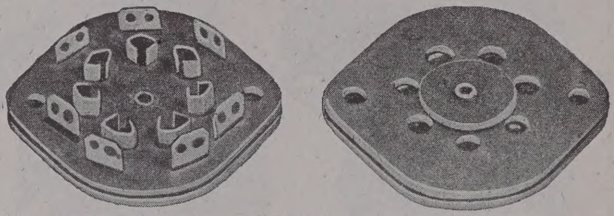
No. 43-1-B — Standard type socket with cutting-edge contacts of spring alloy brass, cadmium plated. Bottom and top plates 3/64″, laminated insulation of XX specifications.



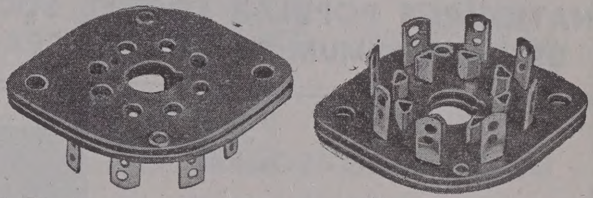
No. 43-1-C — Standard type 43-1-C socket employing cutting-edge contacts of cadmium plated spring alloy brass. Bottom and top plates 3/64″, laminated insulation of XX specifications.



No. 56-1-E—Standard type wafer socket for octal base tubes, with cutting-edge contacts of spring alloy brass, cadmium plated. Bottom and top plates 3/64″, laminated insulation of XX specifications. This socket is supplied in a mounting bracket of cadmium plated steel with mounting center of 1½″ or 1 5/16″. No. 556-1-E is same as No. 56-1-E, but with ground lugs on the mounting brackets. The mounting brackets may be specified with 1 to 4 ground lugs. Lugs are arranged to provide grounding and proper tube contacts by bending contact solder lug to the grounding lug without use of additional wire.

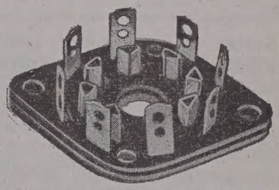


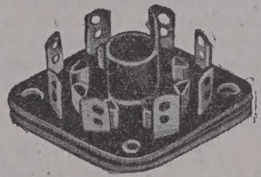
No. 43-1-D—Standard type 43-1-D socket employing cutting-edge contacts of spring alloy brass, cadmium plated. Bottom and top plates are 3/64″, laminated insulation, XX specifications.



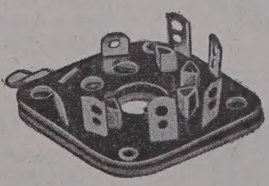
No. 93-1-E—Same as No. 93-1-E standard type wafer socket for octal base tubes with cutting-edge contacts of spring alloy brass, cadmium plated. Bottom and top plates 3/64″, laminated insulation of XX specifications. The 93-1-E type socket has been the standard octal base socket for commercial broadcast receiver application. It is rugged, requires little space, and is adaptable to chassis requirements of all designs. This socket has 1½″ mounting centers for standard application.

No. 893-1-E—Identical in construction and adaptation to No. 93-1-E, except that its contours have been reduced to the absolute minimum, and its mounting center to 1 5/16″ to provide greatest economy of space for compact chassis design.





No. 593-1-ES—Standard type wafer socket for octal base tubes with cutting-edge contacts of spring alloy brass, cadmium plated. Bottom and top plates 3/64″, laminated insulation of XX specifications. This socket is fitted with a center shield provided with ground connection at its lower end. This shield is of great aid in reducing inter-circuit couplings where compactness necessitates resistors and condensers closely adjacent and directly connected to socket contacts. Mounting centers are 1 5/16″ for standard application requiring a minimum of surface space.



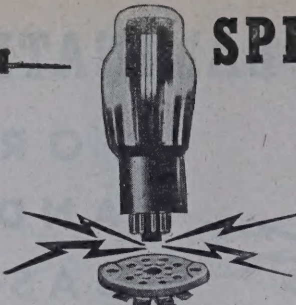
No. 593-1-EG—Standard type wafer socket for octal base tubes with cutting-edge contacts of spring alloy brass, cadmium plated. Bottom and top plates 3/64″, laminated insulation of XX specifications. This socket comes equipped with either 1, 2, or 3 contacts grounded through an external ground connection to provide economy of ground wiring for compact chassis construction, where the chassis frame is employed as the basic ground. The projecting ground lug is offset to lie flush with the chassis surface when the socket is riveted in place, and requires only solder to complete the connection. Mounting centers are standard 1 5/16″.

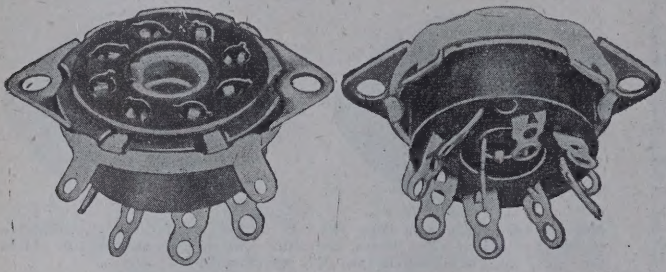
Socket No. 593-1-E same as No. 593-1-EG without ground lug.

National Fabricated Products, Chicago, Illinois, U. S. A.

NATIONAL SPECIALIZED SOCKETS

Numerous types of insulation not described in this catalogue may be employed for special applications. Those indicated here are considered standard for the low frequency, high frequency, and super-high frequency spectra. For complete socket information, refer to our general catalogue.



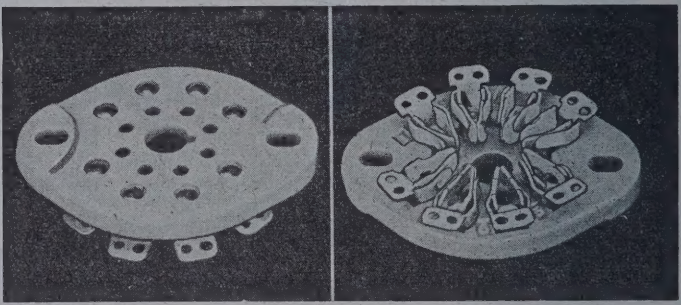


NATIONAL'S POPULAR LOCTAL SOCKET USES A MINIMUM OF CHASSIS SPACE

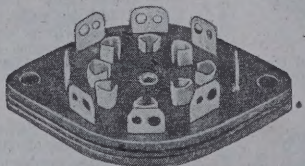
No. 585-1-E (Black Bakelite) and No. 585L-1-E (Low Loss Mica-filled Bakelite)—National Fabricated Loctal Sockets are designed to use a minimum amount of chassis space. The standard loctal socket is mounted in the crimped mounting saddle for 1$\frac{5}{16}$" mounting centers. Contacts employed are self-aligning and float in the molded insulation. This provides the necessary safeguards against fracture of the glass seal of the tube resulting from misalignment of the tube pins.

The general design of the National Fabricated loctal socket is similar to that of the molded octal socket and may be specified with the same types of insulation such as high dielectric black bakelite or mica-filled low-loss bakelite. The design of the loctal contact is such as to insure a firm grip on the tube pin by wrap-around contacts and at the same time provide a cutting edge for minimum radion frequency resistance. The center contact is formed of spring brass, cadmium plated, and is provided with an additional spiral wrap-around for more secure contact. The lower extremity has a solder lug.

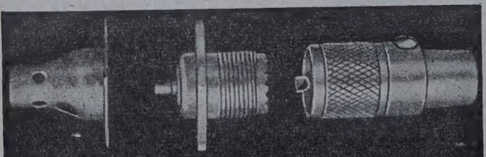
A CERAMIC SOCKET OF OUTSTANDING ENGINEERING DESIGN AND CONSTRUCTION



Series 42—The socket illustrated is National Fabricated 42-1E, eight prong. Our four prong is 42-1A; five prong is 42-1B; six prong is 42-1C and seven prong 42-1D. This design of ceramic socket is constructed of steatite insulation top and sides glazed, bottom wax-impregnated. It is a specific design recommended for us in the VHF and SHF frequency spectra as well as for power supply and amplifier use. Contacts are normally of phosphor bronze cadmium plated. Silver plating on beryllium copper may be specified. In each instance, contacts are reinforced with cadmium plated steel springs that guarantee constant and uniform pressure on the tube pins. The molded steatite insulation is formed to provide mounting bosses and protection around all electrical parts to give maximum voltage breakdown. This Series 42 socket presents a distinct advance in the VHF field and provides a mechanically reliable and electrically efficient receptacle that has proven its merit under all operating conditions. Mounting centers are 1$\frac{25}{32}$" with slotted holes for variation.



No. 43-1E-3—Laminated socket employing three insulating plates with adjacent contacts alternated above and below the center plate. This special construction provides a 50% increase in normal between-contact voltage breakdown. National Fabricated Products produced this particular design for high voltage applications in rectifier and amplifier circuits. Insulation may be specified in X, XX, or XXX bakelite and wax impregnated where high humidity operating conditions are contemplated.



NATIONAL CO-AXIAL CONNECTORS

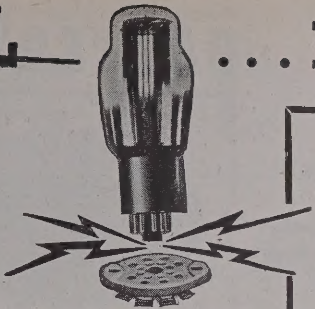
THE ILLUSTRATED CONNECTOR is equivalent to Signal Corps PL-259 and Navy CZE-49195.

THE CHASSIS RECEPTACLE is equivalent to Signal Corps SO-239 and Navy CZE-49194.

THE HOOD is equivalent to Signal Corps M-360 and Navy CZE-49193.

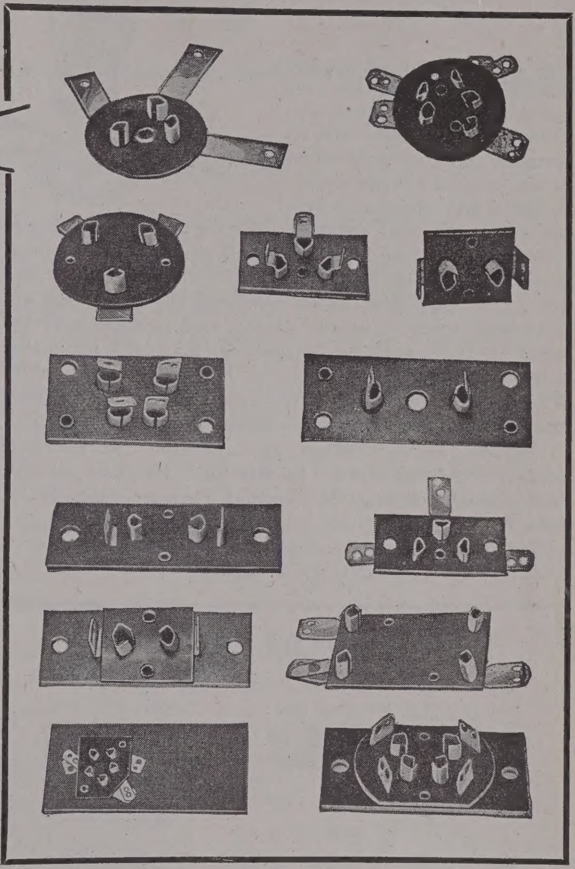
National Fabricated Products, Chicago, Illinois, U. S. A.

NATIONAL ... BATTERY SOCKETS



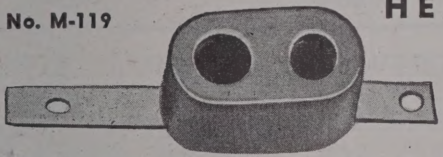
National Battery Sockets illustrated on this page show some of the standard types which have been developed for battery manufacturers and indicate the variety of insulations and assembly styles that have been developed to fit some of the many battery assembly needs. National Fabricated Products' battery socket designs are all based on maintaining the necessary voltage breakdown, insulation, facility of soldering, and protection against sealing mixtures for rapid assembly. The insulating materials which may be employed to fit the special requirement of the battery manufacturer range from Armite to XXX bakelite and may be provided in practically any desired shape to fit and properly seal the battery. Contacts are assembled with the necessary amount of float to insure proper orientation of the battery plug. Standard plate provided is heavy cadmium, although electro-tin plate may be specified if desired. National Fabricated Products has devoted extensive engineering development to the production of battery sockets that will stand up under the rugged requirements of high speed assembly methods, and will withstand without breakdown the rugged handling required in battery applications. The design and production of battery sockets is carried out in a separate department specially employed for this purpose, and National Fabricated Products feels that it has developed through quality of production and engineering service the finest design of battery sockets for the industry.

SPECIAL NOTE: Battery sockets are made in such a wide variety of styles, insulations and contacts, that it is possible only to illustrate a few of the more popular types. We solicit your inquiries. Samples will be submitted immediately on request. When sending your inquiry specify intended application and expected service with specification drawings.



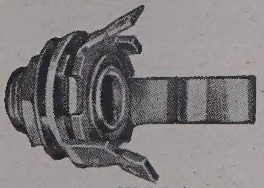
HEARING-AID BATTERY SOCKET

No. M-119

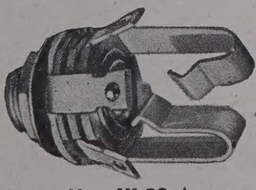


No. M-119—This special hearing-aid battery socket is a National Fabricated design in high dielectric molded black bakelite employing spring brass floating contacts cadmium plated. This socket has proven highly successful and is extensively used by all battery manufacturers producing this style of power supply. The contact and mold designs have been accurately engineered to provide the same degree of uniformity as larger sockets despite the miniature size. Due to the necessity of trouble-free performance of batteries in hearing aid applications, National has developed special assembly machinery to insure the precise manufacture of this socket. Particular attention has been paid in the contact design to absolutely insure positive electrical contact under all operating conditions and to eliminate any chance of noisy contact. A tremendous number of National Fabricated hearing-aid battery sockets well attest the excellence of this design.

NATIONAL JACKS



No. JK-34-A



No. JK-33-A

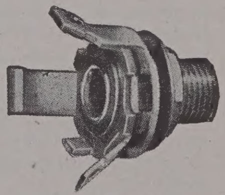
The manufacture of high quality phone jacks has been one of the most important contributions of National Fabricated Products to the wartime requirements of both the Army and the Navy. Thousands of jacks have been manufactured to the exacting specifications required in military equipment, and National Fabricated Products have fulfilled these specifications uniformly and continuously. Special tooling to provide accurate forms of contacts, combined with rigid inspections and specification of contact alloys insure constant and proper contact pressure. National jacks are subjected to long-life tests, and humidity tests to insure electrical and mechanical performance. Jacks are supplied with washers and nuts in accordance with Signal Corps and Navy requirements. Red or black bakelite washers may be furnished in lieu of, or in addition to, metal washers, as required by the user. A slight charge is made for additional bakelite washers.

No. JK-34-A—Designed to receive Signal Corps plugs PL-47, 48, 55, 148, and 155. Supplied with metal washer and metal nut.

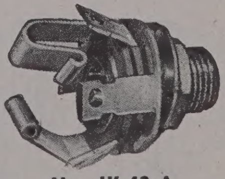
No. JK-33-A—Designed to receive Signal Corps plugs PL-46, 68, and 168. Supplied with metal washer and metal nut.

No. JK-44-A—This jack accommodates same plugs as JK-34-A, and is supplied with black bakelite washer, metal washer, and metal nut.

No. JK-43-A—This jack accommodates same plugs as JK-33-A, and is supplied with red bakelite washer, metal washer, and metal nut.



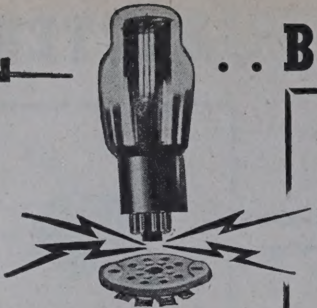
No. JK-44-A



No. JK-43-A

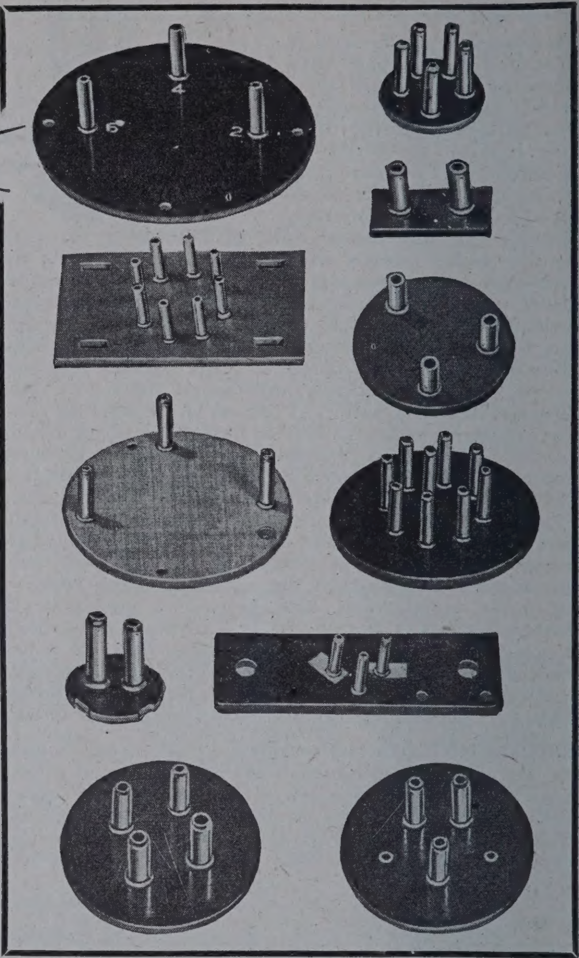
National Fabricated Products, Chicago, Illinois, U. S. A.

NATIONAL .. BATTERY PLUGS ...

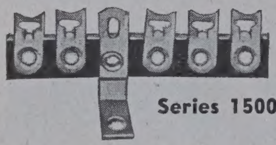


National Battery Plugs are designed to fulfill the requirement of all battery applications and there are illustrated on this page some of the standard types manufactured and commonly employed. Numerous variations are in outside shape and type of insulation. The standard pin orientation most commonly used in commercial applications are illustrated only. Pins employed in all National Battery Plugs are fabricated brass cadmium plated and mechanically secured to the insulation by pening. Standard insulation employed in battery plugs is X laminated bakelite. Where requirements of mechanical strength exceed normal applications, fabric-base bakelite may be specified.

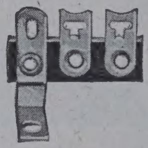
National Battery Plugs are available for standard portable "B," standard 1½-volt "A," standard six-volt "A," special portable "B," special 1½-volt "A," special six-volt "A," and 4½-volt and 7-½volt "A." In ordering battery plugs it is only necessary to specify the type of battery with which it is to be used.

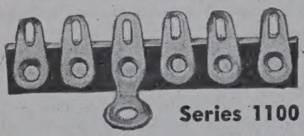


TERMINAL STRIPS

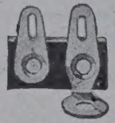


Series 1500

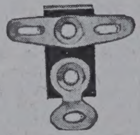




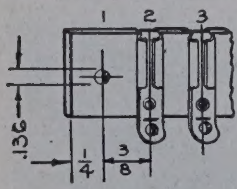
Series 1100



All Strips 3/8" Wide . . . All 1/16" Thick Strips Available in Any Combination



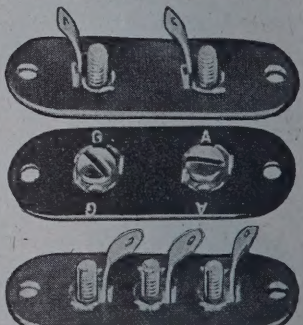
National Terminal Strips in standard specifications employ X laminated bakelite insulation and are mounted on ⅜" centers. Examples of Standard National Terminal Strips are illustrated below. All standard strips are ⅜" wide and 1/16" thick. They are available in any combination desired. National Fabricated Products assures not only design of terminal strip specified, but also the essential requirement of secure and rigid mounting, plating that affords ease of soldering and uniformity of assembly.

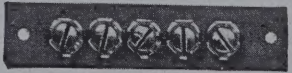


A "Plug-in type" terminal board. May be provided in lengths of from one to eight contacts. For connections which must be changed quickly and easily in chassis construction. Contacts of spring brass, cadmium plated, for use with .125" pins.

SCREW TYPE TERMINAL STRIPS

The strips illustrated are for use with loud-speaker connections, antenna and ground connections, phonograph connections and television connections for chassis mounting. Lugs and screws are brass, cadmium plated and are mounted in X laminated bakelite insulation. Where special requirements call for additional strength, fabric base insulation may be specified.





Series No. 1700 — Multiple screw-type terminal strips for chassis mounting applications. Fabricated of XX bakelite insulation ³⁄₃₂" thick wax impregnated. Screw has shakeproof lock-washer plus a wafer washer — with captive end to prevent loss. Especially adapted to marine and aircraft installations where excessive vibration is a factor. These strips may be furnished in any length and with any number of contacts.

In post-war panning, we shall welcome an opportunity to assist you in developing special parts within the scope of our activities. Our engineering department is equipped to cooperate in the solution of difficult problems and will be available for prompt and efficient service at all times.

National Fabricated Products, Chicago, Illinois, U. S. A.

ALDEN

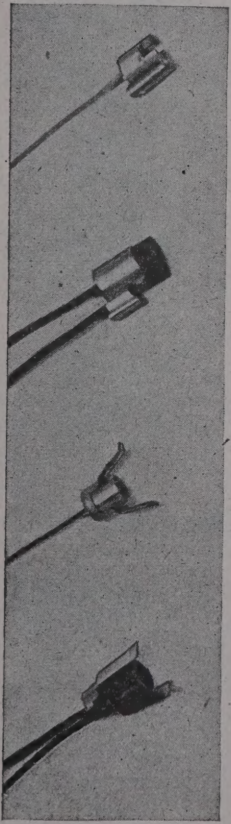
QUALITY COMPONENTS

THE FOLLOWING IS NOT A COMPLETE COVERAGE OF ALDEN PRODUCTS BUT SOME IDEA OF THE SCOPE IS PRESENTED BELOW . . . FOR COMPLETE LISTING SEE ALDEN "BLUE BOOK."

DIAL LIGHT SOCKETS

Here are the dial light sockets to standardize on all your new designs. Supplied with leads—single or double. Single wire socket made complete with minimum metal, one stroke of press. Center contact and insulation automatically assembled as lead is measured, cut to length, and stripped. Thus low cost and delivery schedules are met with leads to your specifications.

Standard leads are black, 18″ free length, stripped ⅜″. Special wire type and lengths on request.



81L

One piece shell. For use on bracket ½″ wide, $\frac{1}{32}$″ to $\frac{1}{16}$″ thick.

No. 81L....................... List $0.14

82L

Insulated type. Mounting same as 81L above.

No. 82L....................... List $0.24

83UL

Tabs on end of "U" bracket spring into panel opening.

Width of mounting hole $\frac{11}{16}$″. Tabs ⅛″ wide.

No. 83UL.................. List $0.20

85UL

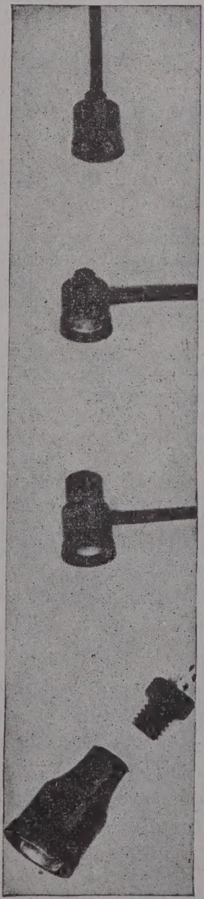
Insulated type, two leads, otherwise same as 83UL above.

No. 85UL.................. List $0.25

TUBE CAPS

Your every requirement of quality tube caps, insulated or not, supplied with leads to your specifications for every voltage requirement. Many made special, such as containing resistors to suppress oscillation, with tools for hundreds of different moldings, stampings, and all types of wire to draw from.

Leads supplied are 18″ free length, stripped ⅜″. Insulations will easily stand voltages encountered in normal use. Special types and lengths on request.



Lead brought through insulating pocket on top. Lead, eyelet and clip soldered together.

No. 90L—For ¼″ dia. List $0.20
No. 91L—For $\frac{23}{64}$″ dia. List .20
No. 92L—For $\frac{9}{16}$″ dia. List .35

Lead brought through side of cap. Strain relief provided by eyeletting lead, as well as soldering.

No. 90SL—For ¼″ dia. List $0.60
No. 91SL—For $\frac{23}{64}$″ dia. List .75
No. 92SL—For $\frac{9}{16}$″ dia. List 1.00

Combination of 90SL and 91SL (fits ¼″ dia. on other end).

No. 90-91L....................... List $0.30

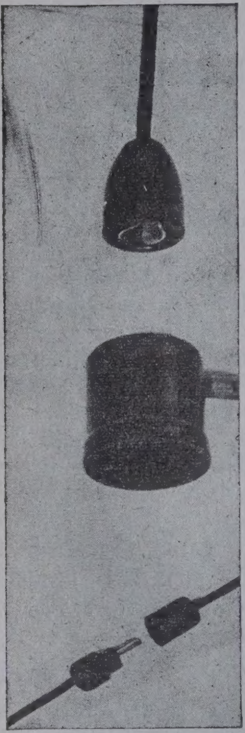
Reduce parasitic oscillation in critical circuits with this cap which provides space for a ⅓ watt resistor and/or a very small choke. Space provided $\frac{7}{32}$″ dia. by ⅜″ long.

No. 92NL—For $\frac{9}{16}$″ dia. List $1.00

ALDEN

NA-ALD NA-ALD

TUBE CAPS (Cont.)



Used especially for transmitter tubes operating at high temperatures. Molding can be unscrewed for inspection. Wire clamped in annular ring eliminates need for solder.

No.	List
91RL—For $\frac{23}{64}''$ dia.	$1.50
92RL—For $\frac{9}{16}''$ dia.	2.00

Heavy molded skirt and phenolic disc prevent any possibility of coming in contact with high voltage, meeting Underwriters requirements.

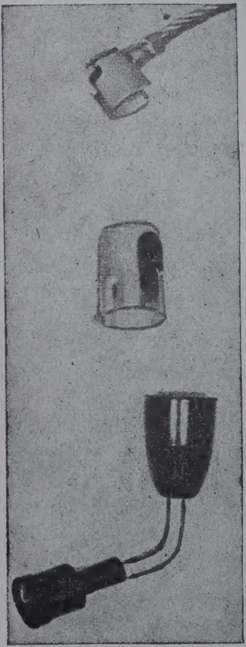
No.	List
90TINL—For ¼″ dia.	$1.50
91TINL—For $\frac{23}{64}''$ dia.	1.50
92TINL—For $\frac{9}{16}''$ dia.	2.00

Molded cap for the ⅛″ dia. pin on the No. 1851 and No. 1852 tube.

No. 201FL................**List $0.25**

May be used with 201FL above as circuit breaking connector for a single lead. Very compact.

No. 201ML................**List $0.25**



Uninsulated type cap. Extra flexible bare copper lead on all but smallest size which uses No. 22 stranded hook-up wire.

No.	List
CS90TL—For ¼″ dia.	$0.75
CS91TL—For $\frac{23}{64}''$ dia.	.85
CS92TL—For $\frac{9}{16}''$ dia.	1.45
CS93TL—For ¾″ dia.	1.75

Patented grid cap shield for metal tubes with molded lining which prevents grounding and protects lead insulation.

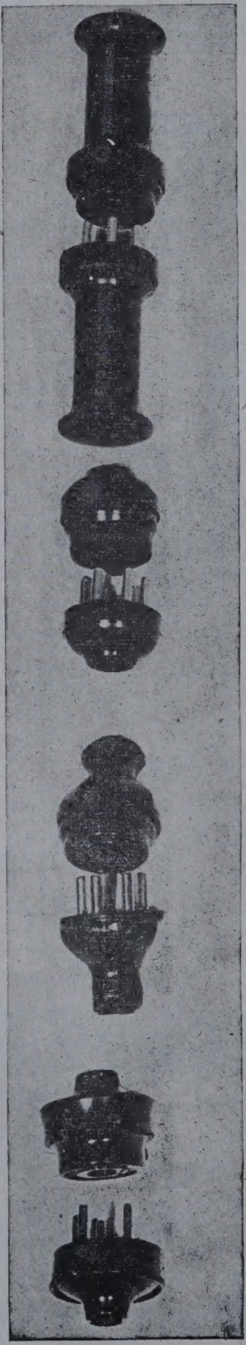
No. 90TCIMS..........**List $0.35**

Transformer leads for any combination of tube boss and transformer stud supplied on request.

State tube boss size, type of transformer stud, and length of lead required.

TWO-PIECE CONNECTORS

These are two-piece plugs with various covers that thread on the bases; base-prongs are the same as radio tubes and so fit the conventional tube sockets. Supplied with cables on request.

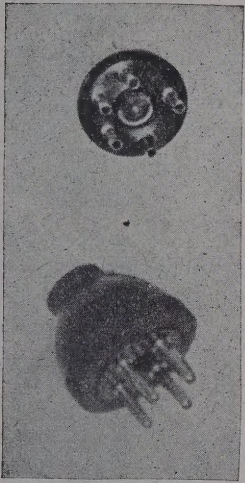


No.		List
974F	4 contact	$0.50
975F	5 contact	.50
976F	6 contact	.50
977F	7 contact	.50
977FA	7(sm.)contact	.50
988F	8 contact	.50
974	4 prong	$0.35
975	5 prong	.35
976	6 prong	.35
977	7 prong	.35
977A	7 prong (sm.)	.35
988	8 prong	.35
94F	4 contact	$0.25
95F	5 contact	.25
96F	6 contact	.25
97F	7 contact	.25
97FA	7 con. (sm.)	.25
98F	8 contact	.25
94	4 prong	$0.15
95	5 prong	.15
96	6 prong	.15
97	7 prong	.15
97A	7 prong (sm.)	.15
98	8 prong	.15
984F	4 contact	$0.40
985F	5 contact	.40
986F	6 contact	.40
987F	7 contact	.40
987FA	7 con. (sm.)	.40
988F	8 contact	.40
984	4 prong	$0.25
985	5 prong	.25
986	6 prong	.25
987	7 prong	.25
987A	7 prong (sm.)	.25
988	8 prong	.25
994F	4 contact	$0.40
995F	5 contact	.40
996F	6 contact	.40
997F	7 contact	.40
997FA	7 con. (sm.)	.40
998F	8 contact	.40
994	4 prong	$0.25
995	5 prong	.25
996	6 prong	.25
997	7 prong	.25
997A	7 prong (sm.)	.25
998	8 prong	.25

ALDEN

MOLDED PLUGS

An inexpensive one-piece molded plug to fit conventional tube sockets—molded insulation surrounding insulation on leads, the ends of which protrude through the prongs and are soldered by dipping.



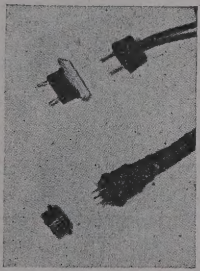
No.		List
104	4 prong	$0.10
105	5 prong	.10
106	6 prong	.10
107	7 prong	.10
107A	7 prong (sm.)	.10
108	8 prong (oct.)	.15

The above plugs with rubber handle. Will accommodate cable up to ½″ diam.

No.		List
104RS	4 prong	$0.20
105RS	5 prong	.20
106RS	6 prong	.20
107RS	7 prong	.20
107RSA	7 prong (sm.)	.20
108RSA	8 prong (oct.)	.25

HEARING-AID PLUGS AND SOCKETS

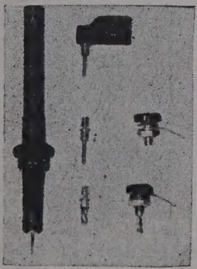
Designed particularly for hard-of-hearing aids, but have numerous other applications such as making a very inconspicuous a.c. cord connector for electric clocks, etc. Plugs supplied with flexible leads 12″ long.



No.		List
HA902VPC	2 prong plug (illustrated)	$0.25
HA903VP	3 prong plug	.30
HA402BT	2 cont. socket (illustrated)	.40
HA403BT	3 cont. socket	.45
HA907C	7 prong plug	1.30
HA407	7 cont. socket	.50

Above is standard miniature seven layout for portable radio and hearing-aid tubes.

TEST PRODS AND JACKS



Long, easily held prod at left with hardened needle point.
No. 160N.......................... List $0.50

Smaller right angle prod at top with hardened needle point.
No. 113N.......................... List $0.25

Continuity tester with 2 prods, leads, neon lamp and plug-in socket (not illustrated).

Information on other points, jacks, etc., on request.

MINIATURE PLUGS AND SOCKETS

The little miniature plugs and sockets are the sockets and plugs for all modern design. Compact metal seal socket with Underwriters' collar provides government spec. quality at commercial prices. Plug provides finger grip, long insulation protection for each lead, providing compact neatness on end of cable.

Choose the 121P to 125P series of plugs and associate sockets 411-445 wherever you wish to make chassis connections of one to five leads. The **coming standards of quality and compactness** indicate that these metal seal sockets must be chosen rather than anything previously available. Has integral Underwriters' collar, and associated neat plug has a finger grip, long protection for leads and provision for locking screw when required. Incorporates our usual design requisites to give you quality at low cost.

Sockets mount in ⅞″ diameter hole, center distance of holes 1⅜″.

No.		List
121P	1 prong	$0.10
122P	2 prong	.10
123P	3 prong	.10
124P	4 prong	.10
125P	5 prong	.10
441	1 contact	$0.25
442	2 contact	.25
443	3 contact	.25
444	4 contact	.25
445	5 contact	.25

DETACHABLE TERMINAL CONNECTORS

Here are the two- to seven-wire Terminal Connectors that took the trailing cord and plug off speakers, did away with terminal strips, allowed for standardization of volume speaker production and met all Underwriters' requirements for a detachable connector. Further, they provided a most inexpensive, completely insulated contact with strain relief on each lead, using a minimum of material and labor. Thus, connectors with leads to any sets specification were provided by the millions—on exacting schedules—and at low cost —requiring a minimum of material and labor, the pooling of orders and purchase requirements to attain the highest procurement and factory efficiency. Female supplied with 18″ leads.

No.		List
202SH	2 prong	$0.15
203SH	3 prong	15
204SH	4 prong	.15
205SH	5 prong	.15
206SH	6 prong	.15
207SH	7 prong	.15

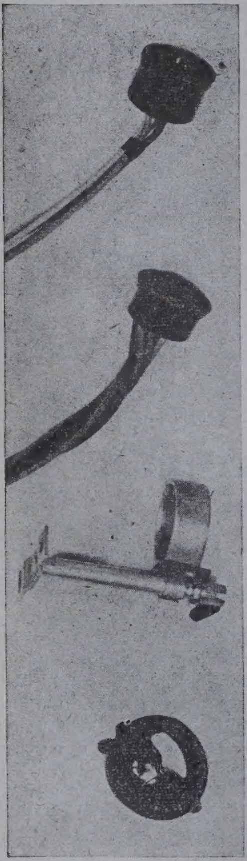
Center hole for No. 8 self-tapping screws in above.

No.		List
202FC	2 contact	$0.14
203FC	3 contact	.15
204FC	4 contact	.16
205FC	5 contact	.17
206FC	6 contact	.18
207FC	7 contact	.19

ALDEN

TUNING EYE SOCKETS

TUNING EYES—Supplied by the millions to the radio industry. Basic design has three parts—molding, contacts, disc. Contact has minimum metal, minimum molding material; but provides protecting collar from live prongs. Complete insulation of each lead, individual strain relief and contact allows fast transfer of heat for perfect soldering. Built-in plate resistor on 6-contact supplied ½, ¼ or 1 megohm as specified. Leads 18″ long, color coded.



For standard six-prong tube; five leads.

No.	Resistor	List
206FESC25	¼ meg.	$0.75
206FESC50	½ meg.	.75
206FESC100	1 meg.	.75

Order above with 206H and 206B below for complete unit.

For octal-based tubes. No resistor. 8 leads supplied. Leads No. 1 and No. 6 can be removed when not required.

No. 208FESC..........List $1.00

Mounting for tuning eye tubes. One slotted screw allows change of angle or movement along length.

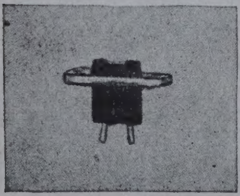
No. 206H..................List $0.25

Molded escutcheon allows wide angle of view — excludes extraneous light.

No. 206B..................List $0.15

A.C. POWER OUTLET

Here is a power outlet using the smallest possible space, Underwriters' approved, and fitting your manufacturing assembly process of assembly-to-chassis by eyelets, rivets or screws, and soldering of leads.



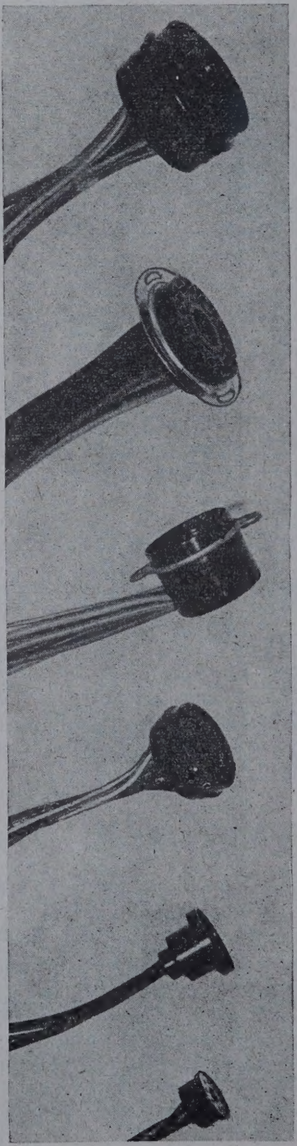
Takes standard outlet plug. Rated 10 a., 250 v.—15 a., 110 v. by Underwriters Labs.

Mounting centers 1⅛″.

No. 402AC...............List $0.22

CATHODE-RAY TUBE SOCKETS

Do not make several problems of Cathode Ray Connectors and Sockets. Experience in supplying the first pioneers for the pilot runs to the latest radar, means the connectors with leads, compact, individual strain relief, individual insulation with safety factors and every type of wire to provide even in the smallest of quantity a connector with the proper insulation of leads, the lengths to your particular requirements, including shielding of any leads, lacing, overall braiding, intervening connectors or "what have you" on special order. Standard lead construction is 18″ cable. Shorten to fit individual needs.



Connector-type, for diheptal-based tubes. (12 or 14 prong.)

No. 214FCC....List $5.10

Panel mounting type, for diheptal-based tubes. Mounting circle 2¾″ diam. Four slots.

No. 214FPC....List $5.43

Panel mounting type, for 11-pin magnal-based tubes. Mounting centers 2½″.

No. 211FBVPC
List $6.68

Connector-type, for 11-pin magnal-based tubes. Used in many commercial oscilloscopes.

No. 211FC........List $5.01

Connector type, for 6-prong tubes.

No. 206FITC....List $2.50

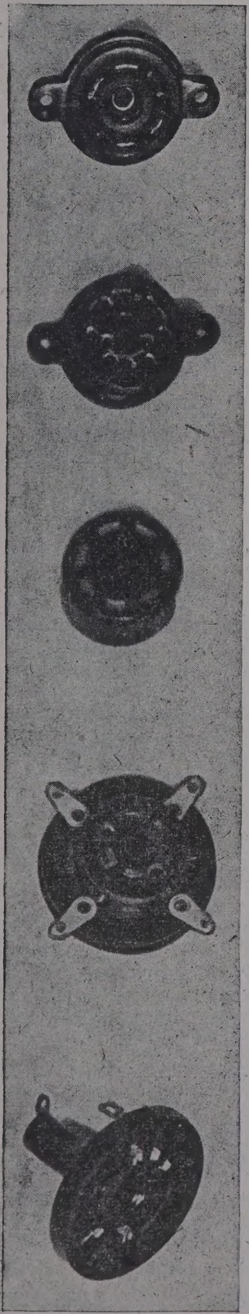
Connector-type, for octal-based tubes.

No. 208FESC..List $1.00

ALDEN

SOCKETS

Patented sockets for tube testers and aging racks. Designed with a minimum of flexing, and free floating, so that the metal in the contact will never crystallize and fail. Test runs indicate a life expectancy of a million and a half insertions.



Sockets to mount above or below panel. $1\frac{19}{32}$″ mounting centers.

No.	Contacts	List
424TF	4	$0.25
425TF	5	.25
436TF	6	.25
437	7	.25
437A	Small 7	.25
438TF	8 (octal)	.40
438TFL	8 (loktal)	.40

Composite sockets—same design as above.

No.	Contacts	List
456TF	4, 5 and 6	$0.50
457	5 and 7	.50
477TF	7 and small 7	.50

Button type sockets for below-panel connecting and making adaptors.

No.	Contacts	List
422	4	$0.25
423	5	.25
426	6	.25
427	7	.25
427A	Small 7	.25
428	8	.25
456B	4, 5 and 6	.50
477B	7 and small 7	.50

Laboratory base-board mount sockets. Rugged contacts.

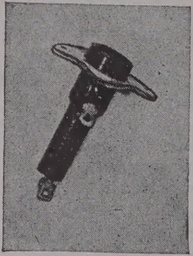
No.	Contacts	List
484	4	$0.50
485	5	.50
486	6	.50
487	7	.50
487A	Small 7	.50
498	8	.50

Acorn tube socket with enclosed base to keep out dust and dirt.

No.	Contacts	List
455V-2	5	$1.25
457V-1	7	1.50

FUSEHOLDER

Here is a patented fuseholder that eyelets or screws in place, has spring to eject burned out fuse, prevent rattle, and open side contact for easy removal of fuse ends when glass breaks.



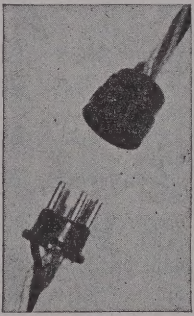
Mounts in ¼″ diam. hole. Mounting screw centers 1⅜″.

Fuse button molded in red. A dime can be used in slot to remove fuse.

No. 440FH........................List $1.25

MINIATURE CONNECTOR

Here is a most compact, inexpensive connector complete with leads. Using a minimum of material, these connectors provide complete insulation around each lead and the protecting collar required by Underwriters and yet occupy a very small space so that large openings are not required from one chamber to another. First used to connect turntable to set, these connectors now have universal application in connecting cables or units of all types. Leads supplied are color coded, 18″ long, except on special order.



Female connector:

No.	Contacts	List
502FC	2	$0.11
503FC	3	.15
504FC	4	.19

Plugs matching above:

No.	Pins	List
502PC	2	$0.08
503PC	3	.12
504PC	4	.16

MINIATURE SHIELD GROUNDING SOCKET

The new automobile set, or any requirement for shield grounding socket, demands this quality patented socket. Here's what it is and does: It's a metal seal socket with a rounded edge entrance that grounds the plug upon insertion. The plug has long insulated protection for each lead and meets all the cable manufacturers' problems of efficient use, as to ease of cutting leads, preparing ends, soldering shield, and applying overbraids. The shield cover seals the plug dust- fungus- and moisture-tight.

No.	Contacts	List
801PC	1	$0.45
802PC	2	.45
803PC	3	.50
804PC	4	.60
805PC	5	.60
411	1	.25
412	2	.25
413	3	.25
414	4	.25
415	5	.25

ALDEN

ANALYZER KITS AND ADAPTORS

For years we have taken in the pencil stage the adaptor problems of the quality radio test equipment manufacturer and given him a quality product that always did the job and anticipated just how it would be used. To do this we have tools, molds, contacts, dies for producing hundreds of component parts which together with our specialized experience have over the years totaled in cost several hundred thousands of dollars. It was therefore natural that our 908 Analyzer Kit and Associate Adaptors found themselves in the Signal Corps standard radio test equipment supplied by the various manufacturers. Adaptors have also been made by us for unannounced tubes. Thus we have partially solved your adaptor problem even before it is presented to us, consequently can provide any new requirment promptly and at a minimum of expense.

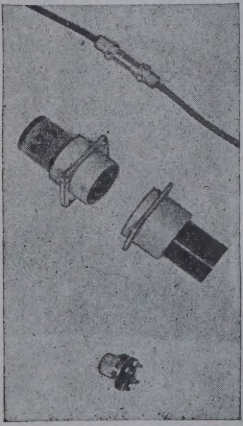
Standard replacements for Weston, Triplett and other analyzer adaptors.

Or make your own analyzer, using these proven adaptors.

No.	List
908C-1 — Locking type plug with 5- ft. 9 wire cable	$2.55
984TLN— 4 prong base	.55
985TLN 5 prong base	.70
986TLN— 6 prong base	.65
987TLN— 7 prong base	.70
987TLNA— 7 (sm.) prong base	.70
988TLN— 8 (oct.) prong base	.90
988TLNL— 8 (lok.) prong base	.85
908—Comp. Kit	7.57

SPECIAL-PURPOSE SINGLE WIRE CONNECTORS

Each of the connectors below was designed for a special purpose for which there was no available product. **Consult Alden on your connector problem.**



Complete shielding through use of die castings. Maximum width only $\frac{9}{16}''$. Shielded cables supplied 24″ long.

No. 6004A................List $4.00

Extremely long leakage path and high-grade phenolic make this pair able to withstand 20,000 volts at sea level.

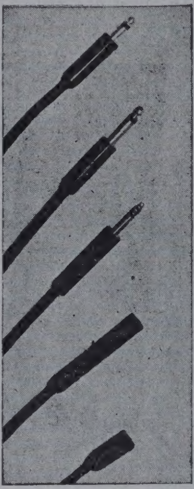
No. 8001A..............List $39.00

Aluminum connector held on equipment by screws and nuts. Screw cap holds spring tension on contact.

No. 1401..................List $0.45

PLUGS, JACKS AND CORDS

Alden has probably made more PL-55 plugs for the Signal Corps than any other manufacturer. Cord sets of all types as well as harnesses have been continuously made for the Armed Forces during the war. **We would like to quote on your cord set or harness job.** All cordage listed below is Signal Corps type, overall rubber jacketed with No. 22 conductors. Jacket stripped back 1½″ on free end. Wires stripped ⅜″.



No.	List
1001A—PL54 plug only	$0.90
3056A—PL54 plug assembled to 6 ft. cord	1.35
1000A—PL55 plug only	.95
3057A—PL55 plug assembled to 6 ft. cord	1.40
1003A—PL68 plug only	2.50
3058A—PL68 plug assembled to 6 ft. cord	2.95
2000A—JK26 jack only	1.25
3059A—JK26 jack assembled to 6 ft. cord	1.70
2001A—JK48 jack only	.85
3060A—JK48 jack assembled to 6 ft. cord	1.25

TELEGRAPH KEYS

Our integrated departments have made us an excellent source for telegraph keys to government specifications. Since all important parts are molded, punched, or turned in our own plant, variations on the basic keys are easily made. When the Canadian Government needed production to their requirements, we modified American parts and produced the assembly so that contractors making sets who bought their keys from us met their schedules.

Basic J37 Key as made for the Signal Corps.

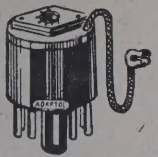
No. 7000A......................List $3.00

Code Practice Key. Molded base, 33″ cord and PL55 plug plus basic J37 key above, which uses solid coin silver contacts. Mounts with four screws on corners. Base 2¾″ x 5″.

No. 7009A......................List $6.40

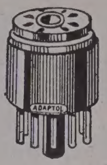
Basic J37 Key mounted on heavy steel hinge and heat-treated steel kneeband. All steel parts parkerized and black lacquered. Rubber jacketed cord 5 ft free length with PL55 plug. Signal Corps J45.

No. 7004ZA...................List $8.00



ADAPTOL

PRECISION TUBE ADAPTERS



REPLACEMENT CHART

CODE AND LIST PRICES

***Letter P denotes Peanut Type Adapter . . . . List $1.50**
***Letter R denotes Resistor Type Adapter . . . . List 1.50**
***Letter L denotes Adapter with Leads . . . . List 1.35**
***Letter A denotes Regular Adapter . . . . List 1.25**

Use Adaptol	*	To replace Type Tube	By using Tube Type
1	P	1A7	1R5
2	L	1A7	1LA6-1LC6
3	A	1C5	3C5
4	A	1Q5	3Q5
5	A	5X4-5Y4	5Z4-5T4 5U4-5Y3
6	A	5Z4-5T4 5U4-5Y3	5X4-5Y4
7	A	80-83 5Z3	5W4-5Z4 5Y3-5T4 5U4-5Y4
8	A	5Y3- 5U4-5W4 5Z4-5T4	80-83 5Z3
9	A	80-83-5Z3	5X4-5Y4
10	A	5X4-5Y4	80-83-5Z3
11	A	6A7	6A8
12	A	6A8	6A7
13	A	6AH5	6L6-6V6
14	A	6V6-6L6	6AH5
15	A	6B7	6B8
16	A	6B8	6B7
17	A	6C5	7A4-XXL
18	A	6F5	6K5
19	A	6K5	6F5
20	A	6F6	7B5
21	A	6J5	7A4
22	A	6K6	7B5
23	A	6Q7	75
24	A	75	6Q7
25	A	6SC7	7F7
26A	A	6SD7	7F7
26B	A	6SD7	7A7
26C	A	6SK7	7A7-7H7
26D	A	6SJ7 A.C. only	7C7
27	A	6SN7	7N7
28	A	6X5	7Y4
29	A	6Z4-84	7Y4
30	A	6SQ7	7B6
30A	A	12SQ7	14B6
31	A	6SA7	7B8
32	A	6SQ7	7K7
33	A	6SA7	7Q7
34	A	25Z5	25Z6
35	A	25Z6	25Z5
36	A	35L6	35A5
37	A	35Z4	35Z3
38	A	35Z5	35Z3
39	A	39-44	6K7
40	A	39-44	78
41A	A	6K6-6F6 6U6-6V6	41-42
41B	A	6K7	6D6-78
41C	A	6J7	6C6-77
41D	A	25A6-25L6- 25B6	43
41E	A	12A6	43
42A	A	43	25A6-25B6- 25L6
42B	A	6C6-77	6J7
42C	A	6D6-78	6K7
42D	A	41-42	6K6-6F6 6U6-6V6
43	A	70-A7	70-L7
44	A	78	39-44
45	A	84-6Z4	6X5
46	A	117N7-117P7	117L7
47	A	50L6	50-A5
48	A	41-42	7B5
49	A	45	46
50	A	12SA7	14A7-14H7 7B7
51	A	12SA7	14Q7
52	A	12SA7	7A8
53	A	12SA7	14B8
54	A	12SK7	14A7
55	A	12SK7	7C7
56	A	12SK7	7B7
57	A	12SQ7	7C6
58	A	47	2A5
59	P	1H5	1S5
60	P	1N5	1T4
61	L	12K7	12SK7
62	L	12K7	7C7
63	L	12K7	7B7
64	R	35Z5	12J5
65	A	12SA7	14S7
66	L	12K7	14C7
67	A	25L6	14C5
68	A	43	14C5
69	A	6SQ7 A.C. only	6SN7
70	A	6SQ7	6SL7
71	L	6SF5	6F5
72	L	6A7	7B8
73	L	6A8	7B8
74	L	6Q7	7B6
75	L	12A8	7A8
76	L	12A8	14Q7
77	L	12A8	14A7
78	L	12A8	14C7
78A	L	12A8	14B8
78B	L	12A8	14J7
79	R	43	6K6
80	A	6K7	39-44
81	A	12SQ7	12SL7
82	L	1H5	1LH4
83	L	1N5	1LN5
84	A	1A5	1LA4
85	A	1J6	19
86	A	6B5	6N6
87	L	6B8	7E7
88	L	6C8-6F8	7F7
89	L	6F5	7B4
90	A	6V6	7C5
91	A	6H6	7A6
92	A	6N6	6B5
93	A	6SF5	7B4
94	A	19	1J6
95	A	35Z5	50Z7
96	A	6X5	84
97	L	6F5	7A4
98	A	6SF5	7A4
99	P	3Q5	3S4
100	A	6SC7 A.C. only	6SN7
101	L	6Q7 A.C. only	6SN7
102	P	1Q5	3S4
103	R	35Z5	12SL7
104	R	25Z5	6Z5
105	R	25Z6	6Z5
106	R	25Z5	6SL7
107	R	25Z6	6SL7
108	R	35L6	12A6
109	R	25Z5	7F7
110	R	25Z6	7F7
111	A	80	84-6Z4
112	L	78-6D6	6SK7
113	L	6K7	6SK7
114	L	75	7E6
115	A	5Y3	7Y4
115A	A	5Y4	7Y4
116	A	80	7Y4
117	L	6K7	7H7
118	L	6Q7 A.C. only	7N7
119	A	6SQ7 A.C. only	7N7
120	P	1A5	1T4
121	P	1C5	1S4
122	P	1Q5	1S4
123	L	6K7	7A7
123A	L	6K7 A.C. only	7V7
124	L	6A8	7Q7
125	L	6A7	7Q7
126	L	1N5	1SA6
127	L	6Q7	7E6
128	A	6SQ7	7E6
129	L	12Q7	7C6
130	A	12SA7	14J7
131	A	12SA7	12SK7
132	A	32L7	70L7
133	A	12SQ7	12AH7
134	A	12K7	12C8
135	L	12SQ7	12Q7
136	L	6Q7	7K7
137	R	50L6	12A6
138	L	75 A.C. only	7N7
139	L	75	7B6
140	L	6A7	7J7
141	L	6A8	7J7
142	A	6SA7	7J7-7S7
143	L	41-42	89
144	L	6K6	89
145	A	47	59
146	A	6SC7	6SL7
147	L	12SK7	12C8
148	A	1T5	1LA4
149	L	1H5	1LD5
150	L	12A8	12SK7
151	A	6SA7	6SK7-6SH7
152	L	6A7	6SK7-6SH7
153	L	6A8	6SK7-6SH7
154	L	6A7	7H7
155	L	6A8	7H7
156	L	6Q7	6SQ7
157	A	6C5-6J5	76
158	R	50L6	6G6
159	A	12SA7	14C7
160	A	12SQ7	14AF7-XXD
161	A	6SA7	7H7
162	R	35Z5	12AH7
163	R	25Z5	12SN7
164	R	25Z6	12SN7
165	A	12SQ7	12SC7
166	L	12Q7	12SC7
167	R	35Z5	12SC7
168	R	35Z5	14AF7-XXD
169	L	6C6-6D6	7H7

See reverse side for "ADAPTOL SPEEDY REFERENCE CHART"

ADAPTOL

PRECISION TUBE ADAPTERS

SPEEDY REFERENCE CHART

To Replace Tube Type	By Using Type Tube	Use Adaptol
1A5	1LA4	84
1A5	1T4	120
1A7	1LA6 1LC6	2
1A7	1R5	1
1C5	1S4	121
1C5	3C5	3
1H5	1LH4	82
1H5	1LD5	149
1H5	1S5	59
1J6	19	85
1N5	1LN5	83
1N5	1SA6	126
1N5	1T4	60
1Q5	3Q5	4
1Q5	3S4	102
1Q5	1S4	122
1T5	1LA4	148
3Q5	3S4	99
5T4	80 83 5Z3	8
5T4	5Y4-5X4	6
5U4	5Y4-5X4	6
5U4	80-83–5Z3	8
5W4	80-83–5Z3	8
5X4	5Y3–5Z4 5T4–5U4	5
5X4	80-83 5Z3	10
5Y3	5Y4-5X4	6
5Y3	80 83 5Z3	8
5Y3	7Y4	115
5Y4	5Y3-5Z4 5T4-5U4	5
5Y4	80–83 5Z3	10
5Y4	7Y4	115A
5Z3	5W4-5Z4 5Y3-5T4 5U4-5Y4	7
5Z3	5X4-5Y4	9
5Z4	5Y4-5X4	6
5Z4	80–83 5Z3	8
6A7	7B8	72
6A7	6A8	11
6A7	7Q7	125
6A7	7J7	140
6A7	6SK7 6SH7	152
6A7	7H7	154
6A8	6A7	12
6A8	7B8	73
6A8	7Q7	124
6A8	7J7	141
6A8	6SK7 6SH7	153
6A8	7H7	155
6AH5	6L6 6V6	13
6B5	6N6	86
6B7	6B8	15
6B8	6B7	16
6B8	7E7	87
6C5	76	157
6C5	7A4 XXL	17
6C6	6J7	42B
6C6	7H7	169
6C8	7F7	88
6D6	6K7	42C
6D6	6SK7	112
6D6	7H7	169
6F5	7A4	97
6F5	7B4	89
6F5	6K5	18
6F6	7B5	20
6F6	41-42	41A
6F8	7F7	88
6H6	7A6	91
6J5	7A4	21
6J5	76	157

To Replace Tube Type	By Using Type Tube	Use Adaptol
6J7	6C6 77	41C
6K5	6F5	19
6K6	89	144
6K6	7B5	22
6K6	41-42	41A
6K7	7H7	117
6K7	6D6 78	41B
6K7	39–44	80
6K7	6SK7	113
6K7	7A7	123
6L6	6AH5	14
6N6	6B5	92
6Q7	7K7	136
6Q7	6SQ7	156
6Q7	7N7 AC only	118
6Q7	6SN7 AC only	101
6Q7	75	23
6Q7	7B6	74
6Q7	7E6	127
6SA7	7B8	31
6SA7	7Q7	33
6SA7	7J7–7S7	142
6SA7	6SK7 6SH7	151
6SA7	7H7	161
6SC7	6SL7	146
6SC7	7F7	25
6SC7	6SN7 AC only	100
6SD7	7F7	26A
6SD7	7A7	26B
6SF5	6F5	71
6SF5	7B4	93
6SF5	7A4	98
6SJ7	7C7 AC only	26D
6SK7	7A7-7H7	26C
6SN7	7N7	27
6SQ7	7B6	30
6SQ7	7K7	32
6SQ7	6SN7 AC only	69
6SQ7	6SL7	70
6SQ7	7N7 AC only	119
6SQ7	7E6	128
6U6	41-42	41A
6V6	6AH5	14
6V6	41-42	41A
6V6	7C5	90
6X5	7Y4	28
6X5	84-6Z4	96
6Z4	7Y4	29
12A6	43-	41E
12A8	7A8	75
12A8	14Q7	76
12A8	14A7	77
12AB	14C7	78
12A8	14B8	78A
12A8	14J7	78B
12A8	12SK7	150
12K7	12SK7	61
12K7	7C7	62
12K7	7B7	63
12K7	14C7	66
12K7	12C8	134
12Q7	7C6	129
12Q7	12SC7	166
12SA7	14A7-14H7-7B7	50
12SA7	14Q7	51
12SA7	7A8	52
12SA7	14B8	53
12SA7	14S7	65
12SA7	14J7	130
12SA7	12SK7	131
12SA7	14C7	159
12SK7	14A7	54
12SK7	7C7	55

To Replace Tube Type	By Using Type Tube	Use Adaptol
12SK7	7B7	56
12SK7	12C8	147
12SQ7	14B6	30A
12SQ7	7C6	57
12SQ7	12SL7	81
12SQ7	12AH7	133
12SQ7	12Q7	135
12SQ7	14AF7-XXD	160
12SQ7	12SC7	165
19	1J6	94
25A6	43	41D
25B6	43	41D
25L6	43	41D
25L6	14C5	67
25Z5	25Z6	34
25Z5	6Z5	104
25Z5	6SL7	106
25Z5	7F7	109
25Z5	12SN7	163
25Z6	25Z5	35
25Z6	6Z5	105
25Z6	6SL7	107
25Z6	7F7	110
25Z6	12SN7	164
32L7	70L7	132
35L6	35A5	36
35L6	12A6	108
35Z4	35Z3	37
35Z5	35Z3	38
35Z5	12J5	64
35Z5	50Z7	95
35Z5	12SL7	103
35Z5	12AH7	162
35Z5	12SC7	167
35Z5	14AF7-XXD	168
39-44	6K7	39
39-44	78	40
41	6K6-6F6-6U6-6V6	42D
41	7B5	48
41	89	143
42	89	143
42	7B5	48
42	6K6-6F6-6U6-6V6	42D
43	25A6-25L6-25B6	42A
43	14C5	68
43	6K6	79
45	46	49
47	59	145
47	2A5	58
50L6	6G6	158
50L6	50A5	47
50L6	12A6	137
70A7	70L7	43
75	6Q7	24
75	7E6	114
75	7N7 A.C. only	138
75	7B6	139
78	39-44	44
78	6SK7	112
80	5W4-5Z4 5Y3-5T4 5U4-5Y4	7
80	5X4-5Y4	9
80	84-6Z4	111
80	7Y4	116
83	5W4-5Z4 5Y3-5T4 5U4-5Y4	7
83	5X4-5Y4	9
84	7Y4	29
84	6X5	45
117N7	117L7	46
117P7	117L7	46

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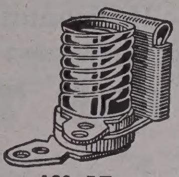
Clip Bracket Types With FLANGE Brackets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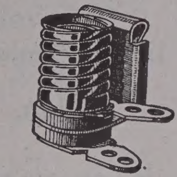
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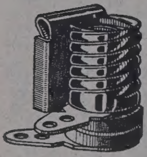
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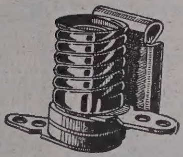
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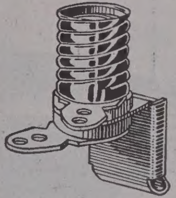
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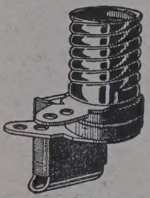
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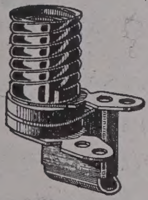
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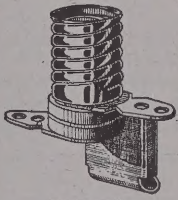
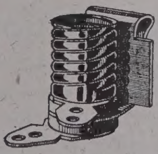

103 CH

★ ★ ★ ★ ★ ★ ★ ★

Clip Bracket Types With Flat Brackets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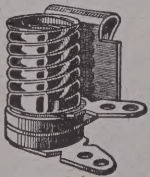
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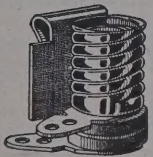
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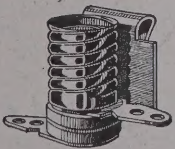
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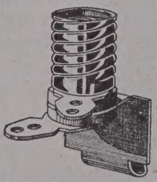
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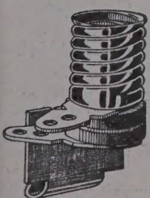
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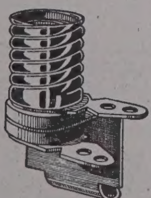
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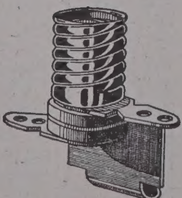
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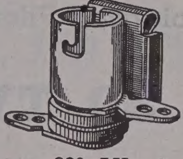
Bayonet Type Socket Assemblies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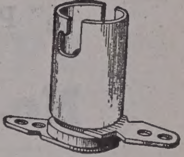
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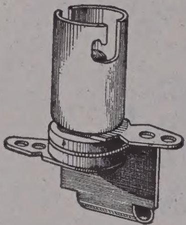
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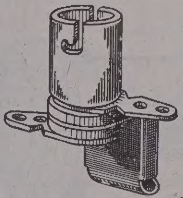
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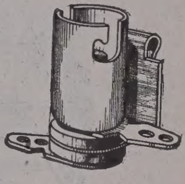
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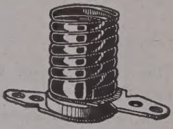
MISCELLANEOUS TYPES . . SPECIAL SIZES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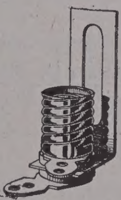
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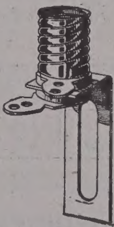
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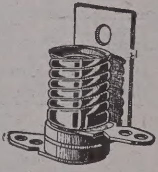
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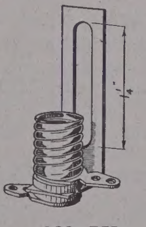
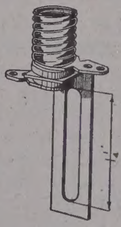
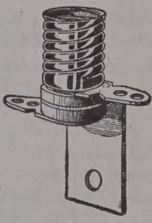

108 AH


108 CH


109 CH

PRICE LIST . . DIAL LIGHT ASSEMBLIES

Min. Screw Type		Min. Bayonet Type		Candelabra Type	
No.	List Price per 100	No.	List Price per 100	No.	List Price per 100
103	$ 9.00	203	$10.00	403	$17.50
104		204		404	
106		206		406	
107		207		407	
108		208		408	
109		209		409	
156B		256B		456B	
119	$ 6.50	219	$ 9.00	419	$15.00
317H		217H		417H	

CODE NUMBERS: Miniature Screw, 100 Series. Miniature Bayonet, 200 Series. Candelabra, 400 Series. (Except 317H).

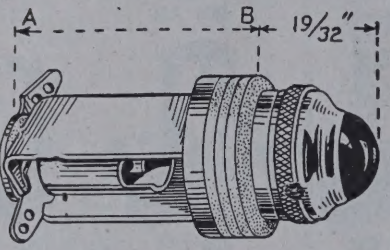
Dial and Jewel PILOT LIGHT ASSEMBLIES

WORLD'S LARGEST EXCLUSIVE MANUFACTURER

JEWEL LIGHT ASSEMBLIES

½" Polarized Pilot Light

No. 80 TYPE



PATENT NO. 2220516
Net Wt. 0.080 lb.

The patented No. 80 incorporates the use of polarized discs to regulate light intensity. A partial turn of the jewel dims the light. Supplied with three fibre washers which compensate for different panel thicknesses.

Type Number	Style Socket	Length A to B	Panel Thickness	List Price
80	Minature Bayonet	$1\frac{7}{16}$"	0" to ¼"	$ 1.40
80S	Miniature Screw	$1\frac{3}{16}$"	0" to ¼"	1.40

SPECIFICATIONS

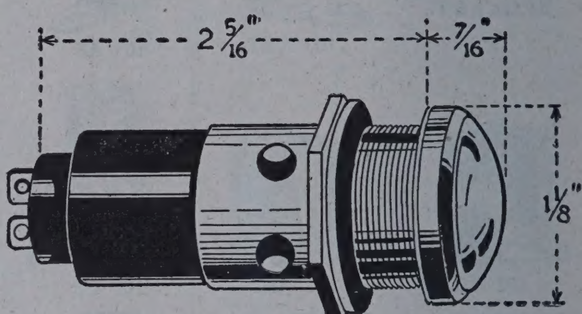
COLORS: Amber, Blue, Green Ruby, White, Yellow, Colorless. **TYPES OF JEWEL:** Regularly supplied with smooth glass, frosted on back only. Optional at no extra cost smooth glass frosted on face and back, symbol SFA; diamond cut (faceted) glass, symbol DC. Mounts in $\frac{11}{16}$" hole. Lamp removable from front of panel. **LAMPS REQUIRED:** Any miniature bayonet or miniature screw based lamp with G 3½ or T 3¼ bulb size. **PACKED** in bulk fully assembled. **FINISH:** Bright nickel. Extra charge for Chrome, Statuary bronze, or 200-hour salt spray protection.

PRICE LIST OF PARTS

Part Number	Description	List Price
25A-CSP	Socket assembly for No. 80	$ .12 Ea.
25B-CSP	Socket assembly for No. 80S	.11 Ea.
50A	Round nut	.18 Ea.
50B	Vulcoid spacing washer	.03 Ea.
80AB-CSP	Jewel assembly including dimming mechanism	.78 Ea.
80C	Collar	.23 Ea.

1" Jewel—Horizontal Mounting
Double Contact Candelabra Bayonet Socket

No. 675 TYPE



Net Wt. 0.137 lb.

The No. 675 has a "slip fit" bezel. It is exceedingly neat in appearance. Very substantial and easy to install. All parts are burnished cadmium plated except the bezel (jewel holder) which has a highly polished chrome finish.

Type Number	Style Socket	Panel Thickness	List Price
575	D.C. Cadelabra Bayonet with screw terminals	0" to ½"	$ 1.85
675	D.C. Cadelabra Bayonet with solder terminals	0" to ½"	1.85

SPECIFICATIONS

COLORS: Amber, Blue, Green, Red, White, Yellow, Colorless. **TYPES OF JEWEL:** Regularly supplied with smooth, colorless, frosted on back only glass and removable color disc. Optional at no extra cost colored glass diamond cut (faceted) symbol DC; or smooth, frosted on back only, symbol SFB. Mounts in 1" hole. Lamp removable from front of panel. **LAMPS REQUIRED:** Any double contact, candelabra sized. bayonet base lamp with G6 or T-4½ bulb size. **PACKED** in bulk and fully assembled. Extra charge for 200-hour salt spray protection.

PRICE LIST OF PARTS

Part Number	Description	Price List
75A-CSP	Jewel	$ .62 Ea.
75C	Nut	.05 Ea.
75E	Color Disc	.03 Ea.
75F	Disc retaining ring	.02 Ea.
75G	Fibre washer—1¼" O.D.	.04 Ea.
3-14CSP	Socket assembly with screw terminals secured in tube	1.19 Ea.
3-17CSP	Socket assembly with solder terminals secured in tube	1.19 Ea.

DRAKE

Dial and Jewel

PILOT LIGHT ASSEMBLIES

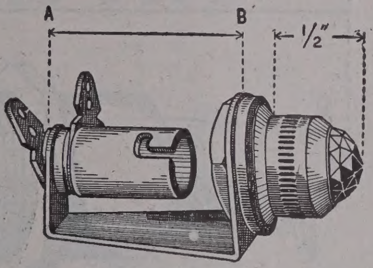
WORLD'S LARGEST EXCLUSIVE MANUFACTURER

JEWEL LIGHT ASSEMBLIES

½" Jewel . . Horizontal Mounting

No. 20 TYPE

The original Drake Horizontal Mounting Lamp Assembly, and still a fast seller. When ordering please be sure to select the correct part number for the thickness of panel on which to be installed; otherwise lamp may not extend far enough forward for easy removal, or if too far, prevent bezel screwing all the way on collar.



PATENT NO. 2220515
Net Wt. 0.036 lb.

Type Number	Style Socket	Length A to B	Panel Thickness	List
20	Min. Bayonet	$1\frac{3}{16}$"	$\frac{1}{16}$"	$.50 EA.
30	Min. Bayonet	1"	¼"	.50 EA.
40	Min. Bayonet	$1\frac{3}{32}$"	⅛"	.50 EA.
20-S	Min. Screw	1"	$\frac{1}{16}$"	.50 EA.
30-S	Min. Screw	$\frac{13}{16}$"		.50 EA.

NOTE: Dimension A to B is overall length of mounting bracket.

SPECIFICATIONS

LAMPS REQUIRED: Miniature T 3¼ tubular, 6-8V, or other T 3¼ lamps of same over-all length. • Lamp removable from front of panel. • Mounts in $\frac{11}{16}$" hole. • **JEWEL:** diamond cut (faceted); Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow. • **SPECIAL FINISHES:** Chrome, Black Nickel, Statuary Bronze. • **PACKED** in bulk with jewel, collar and nuts in bag. • **SPECIAL JEWELS:** SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted back. • List Price SFA and SFB, 2c each extra.

PRICE LIST OF PARTS

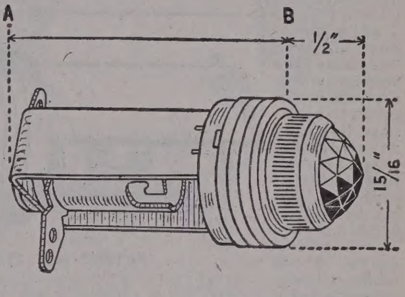
Part No.	Description	List Price
20A-CSP	Socket Assembly for No. 20	$ .12*
21FB-CSP	Socket Assembly for No. 30	.12*
21V-CSP	Socket Assembly for No. 40	.12*
22V-CSP	Socket Assembly for No. 20-S	.11*
22G-CSP	Socket Assembly for No. 30-S	.11*
25CSP	Jewel	.20*
27	Nut	6.40†
28	Collar for No. 0.¼" panels	12.70†
30	Collar for ⅜" panel, ½" long	20.00†

*—Each. †—Per 100

½" Jewel . . Horizontal Mounting

No. 50 TYPE

This patented Drake Assembly is ideal for various applications. Specially designed for use on more than one thickness of panel. Supplied with two fibre washers which compensate for panel thicknesses. It is of sturdy construction, easy to mount, and requires little space.



PATENT NO. 2220516
Net Wt. 0.05616 lb.

Type Number	Style Socket	Length A to B	Panel Thickness	List Price
50	Min. Bayonet	1⅛"	0" to ¼"	$.70 EA.
50½	Min. Bayonet	1⅛"	0" to ⅜"	.80 EA.
50-S	Min. Screw	⅞"	0" to ¼"	.70 EA.
50½-S	Min. Screw	⅞"	0" to ⅜"	.80 EA.

NOTE: Dimension A to B is over-all length from front of panel.

SPECIFICATIONS

LAMPS REQUIRED: Miniature T 3¼ tubular, 6-8 V. or other T 3¼ lamps of same over-all length. • Lamp removable from front of panel. • Mounts in 11/16" hole. • **JEWEL:** diamond cut (faceted); Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow • **SPECIAL FINISHES:** Chrome, Black Nickel, Statuary Bronze. • **PACKED** in individual boxes for jobbing trade; in bulk and fully assembled for manufacturing trade. • **SPECIAL JEWELS:** SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted on back. • List price SFA and SFB, 2c each extra.

PRICE LIST OF PARTS

Part No.	Description	List Price
25CSP	Jewel	$ .20*
25A-CSP	Socket Assembly for No. 50 types	.12*
25B-CSP	Socket Assembly for No. 50-S types	.11*
28	Collar, ⅜" long	12.70†
30	Collar, ½" long for No. 50½ types	23.00†
50A	Round nut	18.00†
50B	Fibre Washer, 15/16" O.D.	3.00†

DRAKE

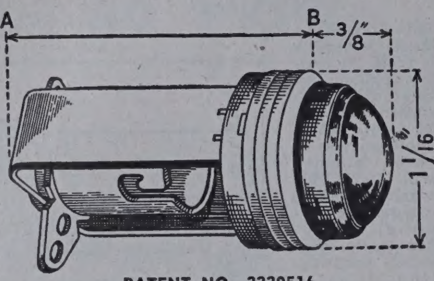
Dial and Jewel
PILOT LIGHT ASSEMBLIES

WORLD'S LARGEST EXCLUSIVE MANUFACTURER

JEWEL LIGHT ASSEMBLIES

¾" Jewel . . Horizontal Mounting
No. 60 TYPE

This patented item is similar to the No. 50, but has a ¾" Jewel in a "slip-fit" bezel. Supplied with three fibre washers which compensate for panel thickness. Its sturdy construction, ease of mounting, and small size make it an ideal assembly. When used with a neon glow lamp, a transparent jewel is supplied.



PATENT NO. 2220516

PRICE LIST

Type Number	Style Socket	Length A to B	Panel Thickness	List Price
60	Min. Bayonet	1½"	0" to ¼"	$1.10 EA.
60¾	Min. Bayonet	1½"	0" to ⅝"	1.65 EA.
60-S	Min. Screw	1$\frac{1}{16}$"	0" to ¼"	1.10 EA.
60¾-S	Min. Screw	1$\frac{1}{16}$"	0" to ⅝"	1.65 EA.
60N	Candelabra	1¾"	0" to ¼"	1.10 EA.
60¾-N	Candelabra	1¾"	0" to ⅝"	1.65 EA.
60T	Candelabra	2"	0" to ¼"	1.65 EA.
60¾-T	Candelabra	2"	0" to ⅝"	1.10 EA.

NOTE: Dimension A to B is over-all length from front of panel.

SPECIFICATIONS

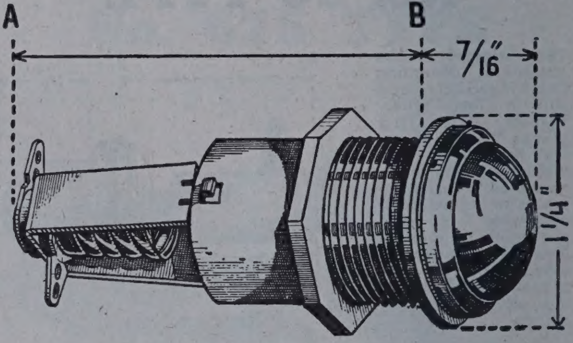
LAMPS REQUIRED: For No. 60, 60¾, 60-S and 60¾-S, Miniature T 3¼ tubular, 6-8 V., or other T 3¼ lamps of same over-all length. For No. 60-N and 60¾-N, Neon glow T 4½; and 4W, T4, Herzog lamps • Lamp removable from front of panel. • Removable color discs (color shows only when lamp is lighted). • Colored glass jewel, smooth, plain, or smooth frosted on back, furnished on request at no extra cost in Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow. • Mounts in 13/16" hole. • JEWEL regularly supplied: smooth crystal frosted on back. • Color discs: Amber, Blue, Green, Red, White, Yellow. • Bezel polished chrome. • PACKED in individual boxes for the jobbing trade; in bulk and fully assembled for the manufacturing trade.

PRICE LIST OF PARTS

Part No.	Description	List Price
28U-CSP	Socket Assembly for No. 60 Type	$ .12*
28V-CSP	Socket Assembly for No. 60-S Type	.11*
28W-CSP	Socket Assembly for No. 60-N Type	.14*
60A-CSP	Jewel	.50*
60B	Collar for No. 60¾ Types, $\frac{25}{32}$" long	75.00†
60C	Collar for No. 60 Type, $\frac{13}{32}$" long	20.00†
60D	Round nut	30.00†
60E	Color Disc	2.00†
60G	Retaining ring	2.00†
60I	Fibre Washer, 1$\frac{1}{16}$" O.D.	4.00†

*—Each. †—Per 100

1" Jewel . . Horizontal Mounting
No. 75 TYPE



PATENT NO. 2192345

The patented No. 75 type has a "slip-fit" bezel. It is exceedingly neat in appearance. Very substantial and easy to install. All parts are burnished cadmium plated except the bezel which has a highly polished chrome finish.

Type No.	Style Socket	Length A to B	Panel Thickness	List Price
75	Candelabra	2¼"	0" to ½"	$1.30 EA.
175	Min. Screw	1¾"	0" to ½"	1.30 EA.
275	Min. Bayonet	2$\frac{1}{32}$"	0" to ½"	1.30 EA.
375	S. C. Bayonet (Candelabra)	2$\frac{5}{16}$"	0" to ½"	1.30 EA.

NOTE: Dimension A to B is over-all length from front of panel. Over-all diameter of mounting nut 1⅜". The No. 75 AP is intended for use in apparatus requiring Board of Underwriters' approval.

SPECIFICATIONS

LAMPS REQUIRED: For No. 75 and 75AP, Candelabra base 6W (115 V.) S6; for No. 175 and 275 Miniature T 3¼ tubular, 6-8 V; or other T 3¼ lamps of same over-all length. For No. 375, single contact, G6, bayonet lamp such as used for automobile headlights. • Lamp removable from front of panel. • Removable color discs (color shows only when lamp is lighted). • Mounts in 1" hole in panels up to ½" thick. • JEWEL regularly supplied: smooth crystal frosted on back. • Color discs Amber, Blue, Green, Red, White, Yellow. • Bezel polished chrome. • Colored glass Jewels, smooth frosted on back or diamond cut (faceted) furnished on request at no extra cost in Amber, Blue, Crystal, Green, Ruby, White (Milk White) or Yellow. • PACKED in individual boxes for the jobbing trade; in bulk and fully assembled for the manufacturing trade.

PRICE LIST OF PARTS

Part No.	Description	List Price
19V CSP	Socket Assembly for No. 75	$ .18*
24H CSP	Socket Assembly for No. 275	.12*
24I CSP	Socket Assembly for No. 175	.11*
24J CSP	Socket Assembly for No. 375	.18*
75A CSP	Jewel	.62*
75B	Tube	.40*
75C	Nut	.05*
75E	Color Disc	3.00†
75F	Retaining ring	2.00†
75G	Fibre washer—1¼" O.D.	4.00†

DRAKE Dial and Jewel PILOT LIGHT ASSEMBLIES

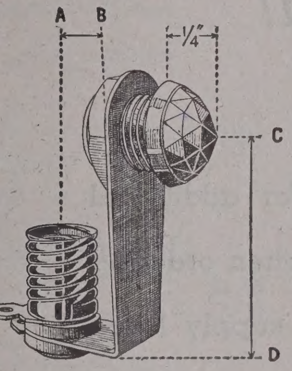
WORLD'S LARGEST EXCLUSIVE MANUFACTURER

JEWEL LIGHT ASSEMBLIES AND JEWELS

½" Jewel . . Vertical Mounting

No. 10 TYPE

NOTE:
Dimension A to B is from center of socket to outside of bracket. C to D from center of jewel to bottom of bracket. The No. 10B and 10C have brackets with oblong hole permitting adjustment to obtain best position for lamp filament back of jewel.



PRICE LIST

Type Number	Style Socket	A to B	C to D	List Price
10	Min. Screw	½"	1¼"	$.32 EA.
10B	Min. Bayonet	¾"	Adj. from $1\frac{5}{16}$"	.33 EA.
10C	Candelabra	¾"	to 1⅝"	.35 EA.
10G	Min. Bayonet	½"	1¼"	.33 EA.

SPECIFICATIONS

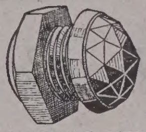
LAMPS REQUIRED: For No. 10 and 10B, miniature screw or bayonet base of any voltage (tubular preferred). For No. 10G, miniature bayonet, type G 3½ bulb. For No. 10C any candelabra base lamp may be used. • Mounts in 7/16" hole on panels up to ¼" thick. • **JEWEL:** diamond cut (faceted); Amber, Blue, Crystal, Green, Ruby, White (Milk White), and Yellow. • **SPECIAL FINISHES:** Chrome, Black Nickel, Statuary Bronze. • **PACKED** in bulk with jewels and nuts in bags. • **SPECIAL JEWELS:** SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted on back. • List price SFA and SFB, 2c each extra.

PRICE LIST OF PARTS

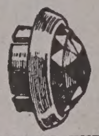
Part No.	Description	List Price
15CSP	Socket Assembly for No. 10	$ .11*
15CSP-B	Socket Assembly for No. 10B	.12*
15CSP-G	Socket Assembly for No. 10G	.12*
15CSP-C	Socket Assembly for No. 10C	.14*
16CSP	Jewel and Nut	.21*
17	Nut	4.40†

*—Each. †—Per 100

½" Jewels



THREADED TYPE



SLOTTED TYPE

THREAD TYPE WITH NUTS

		LIST PRICE	
16CSP	Shank ⅜" long, $\frac{7}{16}$" O.D.	EA.	$ .21
16½CSP	Shank ½" long, $\frac{7}{16}$" O.D.	EA.	.34

SLOTTED TYPES

		LIST PRICE	
22CSP	Shank ⅛" long, ⅜" O.D.	EA.	$ .18
23CSP	Shank $\frac{3}{16}$" long, ⅜" O.D.	EA	.18
31CSP	Shank .085" long, ⅜" O.D.	EA.	.18

JEWELS: Diamond cut (faceted), Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow.

SPECIAL JEWELS: SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted back. • List price SFA and SFB, 2c each extra. • **SPECIAL FINISHES:** Chrome, Black Nickel, Statuary Bronze.

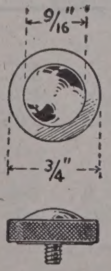
11/32" JEWELS . . Slotted Types Only

JEWELS: Diamond cut (faceted), Amber, Crystal, Green, Ruby, White (Milk White). Also supplied with smooth plain glass (specify "SP") at same price.

FINISHES: Regular finish Statuary Bronze. Also supplied in nickel finish if so ordered, at same price.

21CSP, slotted type, Shank $\frac{3}{16}$" long, $\frac{9}{32}$" O.D.
LIST PRICE EACH .... $ .15

24CSP, slotted type, Shank ¼" long, $\frac{9}{32}$" O.D.
LIST PRICE EACH .... .15



SELF LUMINOUS BULLS EYE
Per Navy Drawing No. 9S-5012-L
parts 15 to 20 inclusive.

The No. 9S-5012-L self luminous bulls eye is for use on a Navy Jack box—W. T., type T-1M, for battery and sound powdered telephones, Navy drawing 9S-5012-L—Alt. 8.

The bulls eye is shipped fully assembled, individually wrapped in tissue paper and packed in bulk.

Orders for less than 1000 pieces not accepted.

List Price ....$1.75 EA.

Thank You!

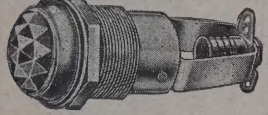
When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

Gothard PILOT LIGHT ASSEMBLIES

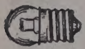
GOTHARD PILOT LIGHTS

1-INCH PILOT LIGHTS — DETACHABLE SOCKETS



This type for panelboards up to 2 inches thick. Bulbs can be changed from back. Prices on request.

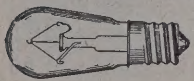
With Miniature Screw Socket



Uses Mazda No. 50— 6-8 Volt
Uses Mazda No. 52—12-16 Volt

Cat. No.	Description	List Price
800	Faceted Jewel	$1.25
801	Plain Jewel	1.25

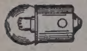
With Miniature Candelabra Socket



Uses Mazda 6S6
115 Volt

Cat. No.	Description	List Price
802	Faceted Jewel	$1.25
803	Plain Jewel	1.25

With Miniature Bayonet Socket

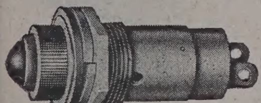


Uses Mazda No. 51— 6-8 Volt
Uses Mazda No. 53—12-16 Volt
Uses Mazda No. 356— 28 Volt

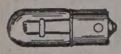
Cat. No.	Description	List Price
804	Faceted Jewel	$1.25
805	Plain Jewel	1.25

Specifications — Prices do not include bulbs.
1-inch Jewels. Jewel holders snap in place.
1-inch mounting hole — Up to ⅜-inch panel thick.
Parts heavily plated. Jewel holder chrome.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

REMOVABLE ½-INCH JEWEL HORIZONTAL TYPE

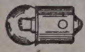


Prices do not include bulbs.



Uses Mazda No. 44 — 6-8 Volt
Uses Mazda No. 1815—12-16 Volt
Uses Mazda No. 313 — 28 Volt

Cat. No.	Description	List Price
1110	Faceted Jewel	$1.25
1111	Plain Jewel	1.25



Uses Mazda No. 51 — 6-8 Volt
Uses Mazda No. 53 —12-16 Volt
Uses Mazda No. 356— 28 Volt

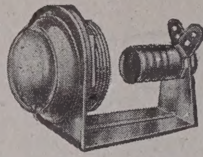
Cat. No.	Description	List Price
1112	Faceted Jewel	$1.25
1113	Plain Jewel	1.25

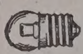
This is a very compact Pilot Light. The body is available in two different lengths. If a long glass bulb bayonet base lamp is used, specify the long body — Nos. 1110 and 1111. If lamp using small round bulbs are used, specify the short body.

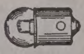
Specifications — Prices do not include bulbs.
Lamp bulbs can be removed by the fingers from the front of the panel.
Jewel holder unscrews for bulb removal.
Fibre washer, lock washer and nut furnished.
Metal parts brass, except nut and lock washer.
Requires 11/16 in. hole for mounting.
All parts heavily plated.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

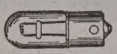
GOTHARD PILOT LIGHTS

1-INCH JEWEL — OPEN BRACKET TYPE









With Miniature Screw Socket

Uses Mazda No. 50, 6-8V; Mazda No. 52, 12-16V

Cat. No.	Description	List Price
100	Faceted Jewel	$1.00
101	Plain Jewel	1.00

With Miniature Bayonet Socket

Uses Short Bulb	Uses Long Bulb
Mazda No. 51— 6-8 Volt	Mazda No. 44— 6-8 Volt
Mazda No. 53—12-16 Volt	Mazda No. 1815—12-16 Volt
Mazda No. 356— 28 Volt	Mazda No. 313— 28 Volt

Cat. No.	Description	List Price
106	Faceted Jewel	$1.00
107	Plain Jewel	1.00

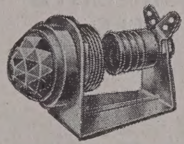
With Candelabra Base Socket

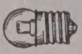
Uses Mazda No. 6S6, 115 Volt

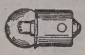
Cat. No.	Description	List Price
103	Faceted Jewel	$1.00
104	Plain Jewel	1.00

Specifications — Prices do not include bulbs.
1-inch mounting hole for panels up to ⅜ inch.
Fixed position terminals.
Note bracket reinforcing rib.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

¾-INCH JEWEL, OPEN BRACKET TYPE







Uses short bulb. 1⅛-inch mounting hole.

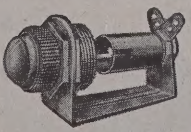
With Miniature Screw Socket

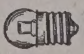
Cat. No.	Description	List Price
700	Faceted Jewel	$0.50
701	Plain Jewel	.50

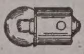
With Miniature Bayonet Socket

Cat. No.	Description	List Price
703	Faceted Jewel	.50
704	Plain Jewel	.50

½-INCH REMOVABLE JEWEL TYPE







Uses short bulb. 11/16-inch mounting hole.

With Miniature Screw Socket

Cat. No.	Description	List Price
400	Faceted Jewel	$0.50
401	Plain Jewel	.50

With Miniature Bayonet Socket

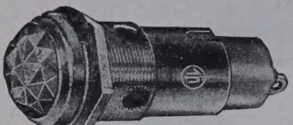
Cat. No.	Description	List Price
403	Faceted Jewel	.50
404	Plain Jewel	.50

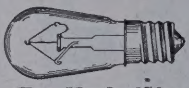
Specifications — Prices do not include bulbs.
Both types require 11/16-inch mounting hole.
½-inch type, bulbs removable from front of panel.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

Gothard PILOT LIGHT ASSEMBLIES

GOTHARD PILOT LIGHTS

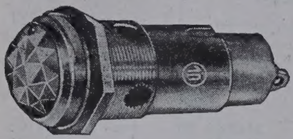
1-INCH INCLOSED — Underwriters' Listed





Uses Mazda 6S6
115 Volts

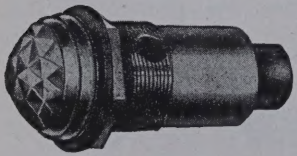
Cat. No.	Description	List Price
1000	Faceted Jewel	$1.25
1001	Plain Jewel	1.25
1002	Frosted Jewel, Colored Disc	1.35



Uses Mazda NE-45
¼ Watt, 115 Volt

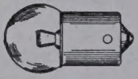
Cat. No.	Description	List Price
1003	Faceted Jewel	$1.25
1004	Plain Jewel	1.25
1005	Frosted Jewel, Colored Disc	1.35

Specifications — Prices do not include bulbs.
Designed for 110-volt current.
Underwriters' approved. Has porcelain socket.
Lamps removable from front at panel.
1-inch Jewels. Holders snap in place.
1-inch mounting hole. For panels up to ⅜ inch.
Parts heavily plated — Jewel holder polished.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.



ONE INCH PILOT LIGHT WITH BAYONET CATCH SHELL

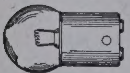
Single Contact



Uses Mazda No. 63 — 6-8 Volt
Uses Mazda No. 67 —12-16 Volt
Uses Mazda No. 71 —18-24 Volt
Uses Mazda No. 1251—24-48 Volt

Cat. No.	Description	List Price
1006	Faceted Jewel	$1.50
1007	Plain Jewel	1.50
1008	Frosted Jewel, Colored Disc	1.60

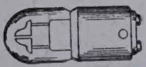
Double Contact



Uses Mazda No. 64 — 6-8 Volt
Uses Mazda No. 68 —12-16 Volt
Uses Mazda No. 72 —18-24 Volt
Uses Mazda No. 1252—24-28 Volt

Cat. No.	Description	List Price
1009	Faceted Jewel	$1.50
1010	Plain Jewel	1.50
1011	Frosted Jewel, Colored Disc	1.60

Double Contact Neon

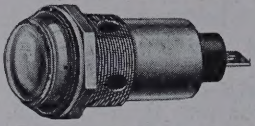


Uses Mazda NE-48
Requires external resistance
30,000 ohms for 115 volts

Cat. No.	Description	List Price
1012	Faceted Jewel	$1.50
1013	Plain Jewel	1.50
1014	Frosted Jewel, Colored Disc	1.60

Specifications — Prices do not include bulbs.
Recommended when vibration is heavy.
Lamps removable from front of panel.
1-inch mounting hole; 1-inch removable jewel.
Parts heavily plated — Jewel holder polished.
Faceted or plain glass jewel.
Colors: Red, Green, Amber, Blue, Opal, Clear.

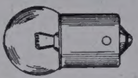
GOTHARD PILOT LIGHTS



BAYONET SOCKET PILOT LIGHTS

Outside Terminals
Bakelite Housing

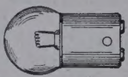
Single Contact



Uses Mazda No. 63 — 6-8 Volt
Uses Mazda No. 67 —12-16 Volt
Uses Mazda No. 71 —18-24 Volt
Uses Mazda No. 1251—24-28 Volt

Cat. No.	Description	List Price
1050	Faceted Jewel	$1.50
1051	Plain Jewel	1.50
1052	Frosted Jewel, Colored Disc	1.60

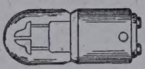
Double Contact



Uses Mazda No. 64 — 6-8 Volt
Uses Mazda No. 68 —12-16 Volt
Uses Mazda No. 72 —18-24 Volt
Uses Mazda No. 1252—24-28 Volt

Cat. No.	Description	List Price
1053	Faceted Jewel	$1.50
1054	Plain Jewel	1.50
1055	Frosted Jewel, Colored Disc	1.60

Double Contact Neon

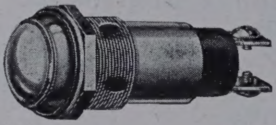


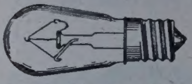
Uses Mazda NE-48
Requires external resistance
30,000 ohms for 115 volts

Cat. No.	Description	List Price
1056	Faceted Jewel	$1.50
1057	Plain Jewel	1.50
1058	Frosted Jewel, Colored Disc	1.60

Specifications — Prices do not include bulbs.
Bakelite sockets, Navy Specification 17P5-FBG.
Lamp bulbs replaceable from front of panel.
1-inch Jewels. Holders snap in place.
1-inch mounting holes for panels up to ⅜ inch thick.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

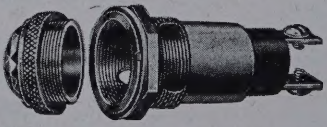
1-INCH — MOLDED BAKELITE SOCKETS





Uses Mazda 6S6
115 Volts

Cat. No.	Description	List Price
1032	Faceted Jewel	$1.50
1033	Plain Jewel	1.50
1034	Frosted Jewel, Colored Disc	1.60
	For Mazda NE-45 Neon — Bulbs Not Included	
1035	Faceted Jewel	1.50
1036	Plain Jewel	1.50
1037	Frosted Jewel, Colored Disc	1.60



WITH SCREW-IN JEWEL HOLDERS

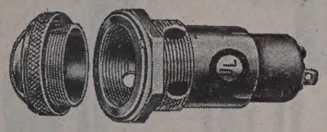
Cat. No.	Description	List Price
1209	Faceted Jewel, uses Mazda 6S6 Bulb	$1.75
1210	Plain Jewel, uses Mazda 6S6 Bulb	1.75
1211	Frosted Jewel, Colored Disc, uses Mazda 6S6 Bulb	1.85
1212	Faceted Jewel, uses Mazda NE-45 Neon	1.75
1213	Plain Jewel, uses Mazda NE-45 Neon	1.75
1214	Frosted Jewel, Colored Disc, uses Mazda NE-45 Neon	1.85

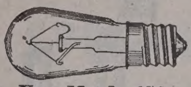
Specifications — Prices do not include bulbs. C
Molded Bakelite Sockets, Navy Specification 17P4-CFG.
1-inch mounting hole. Front lamp replacement.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

Gothard PILOT LIGHT ASSEMBLIES

GOTHARD PILOT LIGHTS

THREADED JEWEL HOLDERS
1-INCH JEWELS

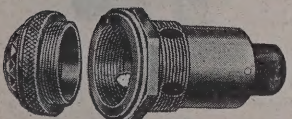


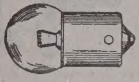


Uses Mazda 6S6
115 Volt

Cat. No.	Description	List Price
1200	Faceted Jewel	$1.50
1201	Plain Jewel	1.50
1202	Frosted Jewel, Colored Disc	1.60

With Single Contact Bayonet Socket

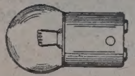




Uses Mazda No. 63 — 6-8 Volt
Uses Mazda No. 67 —12-16 Volt
Uses Mazda No. 71 —18-24 Volt
Uses Mazda No. 1251 — 24-28 Volt

Cat. No.	Description	List Price
1203	Faceted Jewel	$1.75
1204	Plain Jewel	1.75
1205	Frosted Jewel, Colored Disc	1.85

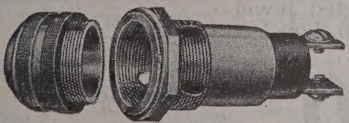
With Double Contact Bayonet Socket



Uses Mazda No. 64 — 6-8 Volt
Uses Mazda No. 68 —12-16 Volt
Uses Mazda No. 72 —18-24 Volt
Uses Mazda No. 1252—24-28 Volt

Cat. No.	Description	List Price
1206	Faceted Jewel	$1.75
1207	Plain Jewel	1.75
1208	Frosted Jewel, Colored Disc	1.85

VARIABLE LIGHT INTENSITY
1-Inch Jewels



Uses Mazda 6S6 Bulb, 115 volt.

Cat. No.	Description	List Price
1504	Faceted Jewel	$2.50
1505	Plain Jewel	2.50
1506	Frosted Jewel, Colored Disc	2.60

In the above Pilot Lights there are two metal discs each containing three triangular holes. The assembly is such that, in one position, the holes all register and the Pilot Light shows bright. A turn of the knurled jewel holder reduces the brightness. Clear lenses, sand blasted all over, are furnished. Transparent colored celluloid discs are placed underneath the jewels.

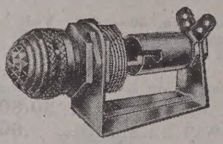
Specifications — Disc colors: Red, Green, Amber, Blue, White.

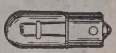
Jewel holders polished and chromium plated.

1-inch mounting holes. Bulbs removable from front.

GOTHARD PILOT LIGHTS

VARIABLE LIGHT INTENSITY
½-INCH JEWELS



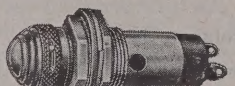


11/16-in. Mounting Hole

Uses Short Bulb
Mazda No. 51— 6-8 Volt
Mazda No. 53—12-16 Volt
Mazda No. 356— 28 Volt

Uses Long Bulb
Mazda No. 44— 6-8 Volt
Mazda No. 1815—12-16 Volt
Mazda No. 313— 28 Volt

Cat. No.	Description	List Price
420	Polarized type, Faceted Jewel	$2.00
421	Polarized type, Plain Jewel	2.00
430	Shutter type, Faceted Jewel	2.00
431	Shutter type, Plain Jewel	2.00



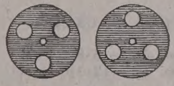
Uses Short or Long bulb as above. 11/16-inch mounting hole.

For Long Bulbs Order Thus:

Cat. No.	Description	List Price
1114	Shutter type, Faceted Jewel	$1.50
1115	Shutter type, Plain Jewel	1.50
1118	Polarized type, Faceted Jewel	1.50
1119	Polarized type, Plain Jewel	1.50

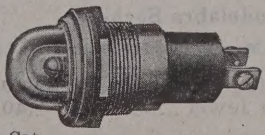
For Short Bulbs Order Thus:

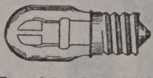
Cat. No.	Description	List Price
1116	Shutter type, Faceted Jewel	1.50
1117	Shutter type, Plain Jewel	1.50
1120	Polarized type, Faceted Jewel	1.50
1121	Polarized type, Plain Jewel	1.50



In many cases it is desirable to vary the light intensity of a Pilot Light. Two methods are used. The first consists of two polarized discs mounted so that the lines of polarization can be either parallel or at right angles. When parallel, the jewel shows bright. When at right angles, the jewel is very dim. Various graduations of light intensity are possible. In the second type two metal discs, each containing three holes, are substituted for the polarized discs. The assembly is such that in one position the holes all register and the Pilot Light shows bright, becoming dim when holes are turned out of register. Translucent Lucite lenses in the following colors: Red, Green, Amber, Blue, Opal.

NEON GLO-LITE





Uses Mazda NE-45
¼ Watt, 115 Volt

Cat. No.	Description	List Price
1216	Clear Lucite Cap	$2.00
1217	Colored Lucite Cap	2.00

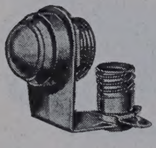
Transparent colors: Red, Green, Amber

The Neon bulbs consume only ¼-watt current and their life is rated at 3000 hours. Note that the glow portion of the bulb sets up in the Lucite cap. The interior of the cap is covered with tiny hemispheres. This design diffuses the light so that the cap is readily visible from the side, as well as in front.

Gothard PILOT LIGHT ASSEMBLIES

GOTHARD PILOT LIGHTS

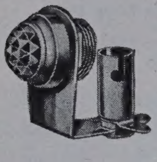
¾-INCH JEWEL, VERTICAL MOUNTING



Miniature Screw Socket

Uses Bulb, Mazda No. 50— 6-8 Volt
Uses Bulb, Mazda No. 52—12-16 Volt

Cat. No.	Description	List Price
200	Faceted Jewel	$0.60
201	Plain Jewel	.60



Miniature Bayonet Socket

Uses Bulb, Mazda No. 51— 6-8 Volt
Uses Bulb, Mazda No. 53—12-16 Volt
Uses Bulb, Mazda No. 356— 28 Volt

Cat. No.	Description	List Price
206	Faceted Jewel	$0.60
207	Plain Jewel	.60

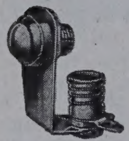
Candelabra Socket

Uses Mazda 6S6, 115 Volt

Cat. No.	Description	List Price
203	Faceted Jewel	$0.60
204	Plain Jewel	.60

Specifications — Prices do not include bulbs.
Requires 11/16-inch mounting hole.
Fixed position terminals.
Insulating washers — laminated Bakelite.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

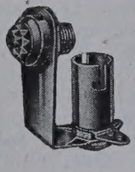
½-INCH, VERTICAL MOUNTING



Miniature Screw Socket

Uses Bulb, Mazda No. 50— 6-8 Volt
Uses Bulb, Mazda No. 52—12-16 Volt

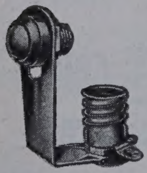
Cat. No.	Description	List Price
300	Faceted Jewel	$0.35
301	Plain Jewel	.35



Miniature Bayonet Socket

Uses Bulb, Mazda No. 51— 6-8 Volt
Uses Bulb, Mazda No. 53—12-16 Volt
Uses Bulb, Mazda No. 356— 28 Volt

Cat. No.	Description	List Price
306	Faceted Jewel	$0.40
307	Plain Jewel	.40



Candelabra Socket

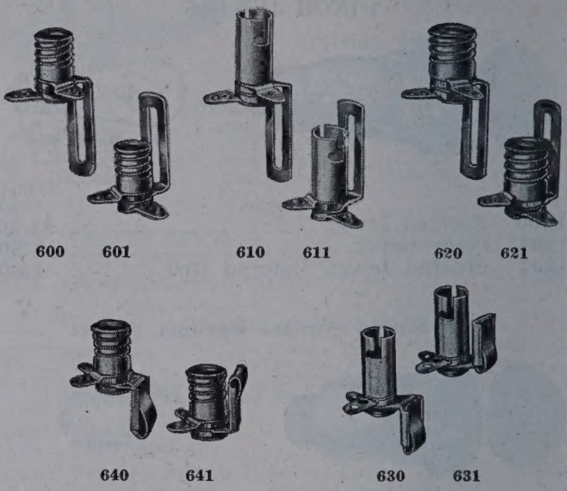
Uses Mazda 6S6, 115 Volt

Cat. No.	Description	List Price
303	Faceted Jewel	$0.40
304	Plain Jewel	.40

Specifications — Prices do not include bulbs.
Requires 7/16-inch mounting hole.
Bracket made from heavy metal.
Insulating washers, laminated Bakelite.
All parts heavily plated.
Fixed position terminals are used on all assemblies. A step in the terminal locks over one side of an octagonal washer—Patent Pending.
Faceted or plain glass jewels.
Colors: Red, Green, Amber, Blue, Opal, Clear.

GOTHARD PILOT LIGHTS

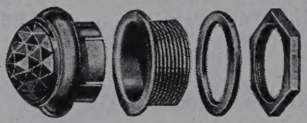
DIAL LIGHT BRACKETS



Cat. No.	Socket	Bracket	List Price
600	Miniature Screw	Bracket Down	$0.10
601	Miniature Screw	Bracket Up	.10
610	Miniature Bayonet	Bracket Down	.12
611	Miniature Bayonet	Bracket Up	.12
620	Candelabra	Bracket Down	.15
621	Candelabra	Bracket Up	.15
630	Miniature Bayonet	Bracket Down	.20
631	Miniature Bayonet	Bracket Up	.20
640	Miniature Screw	Bracket Down	.20
641	Miniature Screw	Bracket Up	.20

The above — all brass construction.

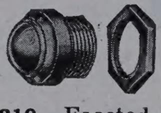
JEWELS FOR SEPARATE MOUNTING



1-inch jewel.

1-inch mounting hole.

Cat. No.	Description	List Price
110	Faceted Jewel	$0.75
111	Plain Jewel	.75



¾-inch Jewel.

11/16-inch mounting hole.

Cat. No.	Description	List Price
210	Faceted Jewel	$0.40
211	Plain Jewel	.40

½-inch Jewel.

11/16-inch mounting hole.

Cat. No.	Description	List Price
410	Faceted Jewel	$0.38
411	Plain Jewel	.38

½-inch Jewel.

7/16-inch mounting hole.

Cat. No.	Description	List Price
310	Faceted Jewel	$0.25
311	Plain Jewel	.25

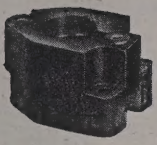
Specifications — Prices do not include bulbs.
Colors: Red, Green, Amber, Blue, Opal, Clear.

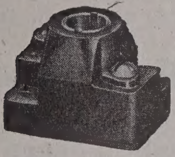
DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

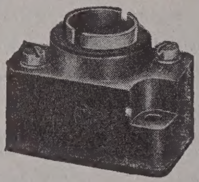
MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

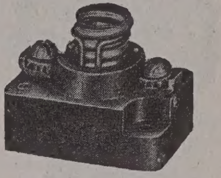
NAVY SPECIFICATION SOCKETS

Made of Moulded Bakelite • Base Mount


Candelabra Screw
9-S-5038-L 46


Miniature Bayonet
9-S-4931-L 90


Candelabra D.C. Bayonet
9-S-4634-L 46


Candelabra Screw
9-S-2036-L 40

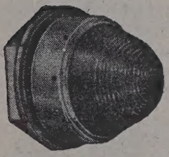
Made to Navy specifications, these sockets can be combined with any of the Jewel Holders illustrated on pages N-16 and N-17 to make complete assemblies. . . . Prices on application.

DIALCO JEWELS

Complete with Turned Brass Holders for Mounting in Panels

Jewels presented here are merely representative of our general line. We manufacture the most extensive line. For additional information on other types, or special jewels, send specifications.

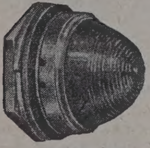
1" Torpedo Jewel Screw Type Assembly — Series TS97-01


TS97-01

Features: Water Tight . . . 1" Hole Mounting . . . Length of thread behind Jewel Holder $\frac{5}{16}$" . . . Furnished with washer, lockwasher, and nut . . . Material: Brass or 17 S.T. Aluminum. **Finishes:** Dull White Nickel, Black Nickel, Satin Chrome, Polished Chrome, Anodized, or Ebinol. **Lens Colors:** Red, Green, Amber, Blue, Yellow, Opal, White, Clear.

1" Jewel Assembly Series TS97-01
List Price $0.75

1" Torpedo Jewel Friction Type Assembly — Series TS97-02


TS97-02

This model has the same features as the above, except that it is of the Friction Type, which makes possible the removal of lamp from front of panel . . . Panel bushing is available in any length from ⅛" to 2" depending on the thickness of the panel.

1" Jewel Assembly Series TS97-02
List Price $0.75

1" Jewel with Bushing & Mounting Nut

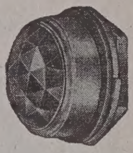
910-JHS

Single 1" hole for mounting . . . Allows removal of lamp from front of panel through use of panel bushing with Jewel Holder . . . Highly polished chrome plated brass Jewel Holder . . . Faceted or Smooth-Faced Jewels . . . Colors optional: Red, Green, Amber, Blue, Opal, White and Clear Jewels . . . Frosted White Jewels can be furnished with removable colored discs, color showing only when lamp is on.

	List Price
910-JHF—Jewel Holder with Panel Bushing and Mounting Nut, Faceted Jewel	$0.60
910-JHS—Jewel Holder with Panel Bushing and Mounting Nut, Smooth Jewel ...	.60
910-JHD—Jewel Holder with Panel Bushing and Mounting Nut, Frosted White Jewel with Removable Colored Disc	.60

Jewel holders can be furnished with special finishes other than listed . . . **NOTE:** Specify color of Jewel or Disc when ordering.

1" Screw Type Jewel Assembly — Series S97-03


S97-03

This unit has the same features as Model TS97-01 illustrated on left, except for the difference in the lens which is as shown. May be had in either Smooth or Diamond-faced jewel . . . Please specify when ordering.

1" Jewel Assembly Series S97-03
List Price $0.75

¾" Jewel with Mounting Nut

25-F

Used where low priced large Jewel is needed . . . Single $\frac{11}{16}$" hole for mounting . . . Highly polished chrome plated brass Jewel Holder . . . Faceted or Smooth-Faced Jewels. Colors optional: Red, Green, Amber, Blue Opal and Clear Jewels.

25-F—Jewel Holder and Mounting Nut, Faceted Jewel ....**List Price $0.40**

25-S—Jewel Holder and Mounting Nut, Smooth Jewel ....**List Price .40**

Note: Specify Color of Jewel when ordering.

½" Jewel and Mounting Nut

10-F

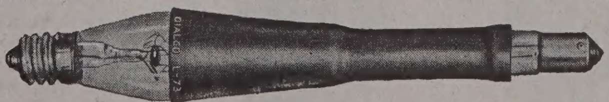
Low Cost—All Purpose . . . Single $\frac{7}{16}$" hole for mounting . . . Nickel plated brass Jewel Holder . . . Faceted or Smooth-Faced Jewels . . Colors optional: Red, Green, Amber, Blue, Opal and Clear Jewels.

10-F—Jewel Holder and Mounting Nut, Faceted Jewel ....**List Price $0.15**

10-S—Jewel Holder and Mounting Nut, Smooth Jewel ....**List Price .15**

Note: Specify Color of Jewel when ordering.

DIALCO LAMP INSTALLER—For All Lamps



Made of rubber; takes all types of miniature, neon and candelabra lamps . . . Designed to expedite mass production, this device makes lamp installation extremely simple and rapid. Especially effective in places that are hard to reach or constricted.

Manufacturers who use Dialco assemblies will receive, on request, a sufficient quantity of Dialco Lamp Installers to meet their production requirements.

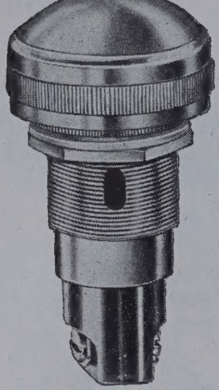
Dialco Lamp Installer No L-73..............................List Price $0.40

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

The Pilot Lights presented on this and the adjoining page are only representative of the extensive Dialco line of 1″ and 1½″ Pilot Lights. These units are in service in every conceivable Aircraft, Marine, Electronic, Radio, Electrical and Industrial application. Should you require a special unit, we can rapidly submit suggestions and samples to meet your specific requirements.

SERIES "A"



61901

GENERAL DATA

SERIES "A"—1½″ Marine Cap Screw Pilot Lights.
SERIES "B"—1″ Marine Cap Screw Pilot Lights.
SERIES "C"—1″ Marine Cap Screw Full View Torpedo Pilot Lights.
SERIES "D"—1″ Marine Cap Screw "Vari-Dim" Pilot Lights.

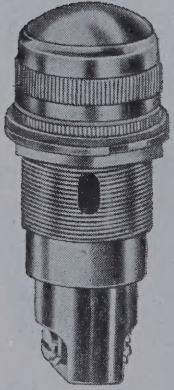
The following general features and specifications apply to all units in the Series presented on this page:

All units are water-tight, tested under 15 lbs. pressure per square inch. The Jewel Holder Cap screws on from front of panel. ***All lamps are removable from front of panel. Require 1" panel hole for mounting.***

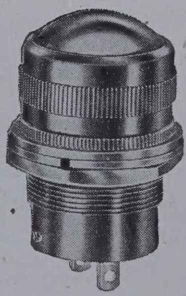
Navy Specifications 17-P-4-CFG Moulded Bakelite Housing.

- Heavy terminals for soldering or terminal screw connection. Terminals are perfectly secured—so that they do not turn or become loose regardless of the severity of the tests to which they may be subjected.
- **Material:** Brass or Aluminum 17 S.T.
- **Finishes:** Dull White Nickel, Black Nickel, Satin Chrome, Polished Chrome, Anodized, Ebinol, and Olive Drab Anodized Lusterless U.S.A. Signal Corps Specifications.
- **Lenses:** Series "A-B-D"—Smooth- or Diamond-faced. If smooth, specify clear color, Sandblasted-on-back or Sandblasted-over-all.
  Series "C"—Torpedo lens.
- **Lens Colors:** Red, Green, Amber, Blue, Yellow, Opal, White, Clear.
- **Lamp Specifications:** See page N-14 for 9 standard lamps applicable to these series of Pilot Lights.

SERIES "B"

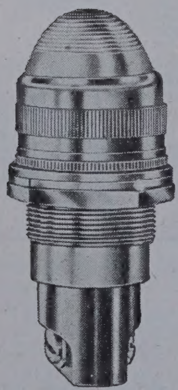


51901

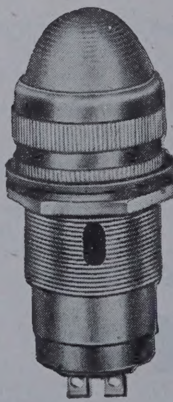


51410

SERIES "C"

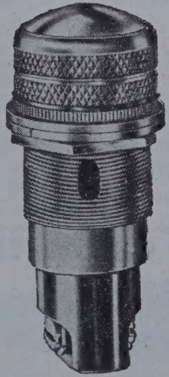


51901-5



51206-5

SERIES "D"



71901

Plus LAMPS...
To help speed production, Dialco offers Pilot Lights completely assembled with G.E. or Westinghouse Lamps—any type or voltage. Samples submitted on request.

HOW TO ORDER

The choice of a Pilot Light is determined partly by the type and size of bulb to be used. On page N-14 are listed 9 standard bulbs. Select your Pilot Light from any Series in conjunction with the required bulb. **Note:** Prices quoted do not include the bulbs. Prices will be quoted on application. We are in a position to supply any standard or special General Electric or Westinghouse Bulb for any Dialco Pilot Light which you select.

FOR PRICES SEE PAGE N-14

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

The units presented on this page are recommended for general applications other than marine. Precision engineered and ruggedly constructed, these Pilot Lights will give dependable and lasting service.

GENERAL DATA

SERIES "E"—1" Lock-Tite Friction Bayonet-Lock Pilot Lights.

SERIES "F"—1" Lock-Tite Friction Bayonet-Lock, Full-View Torpedo Pilot Lights.

SERIES "G"—1" Standard Friction Fit Pilot Lights.

SERIES "H"—1" Standard Friction Fit Full-View Torpedo Pilot Lights.

SERIES "R"—1" Standard Friction Fit Pilot Light, Porcelain Base.

The following general features and specifications apply to all units in the Series presented on this page:

All "Lock-Tite" units are designed for service on vibrating panels. The positive "friction-lock" construction of the jewel holder prevents impairment of the unit even when subjected to severe vibration.

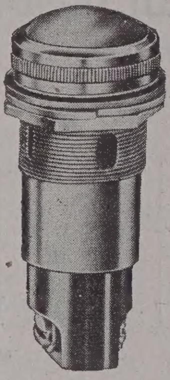
The "Friction Fit" units are designed for installation in which the vibration factor is of minor importance. The "friction-fit" Jewel Holder is inserted firmly and securely, assuring efficient, dependable service of the assembly.

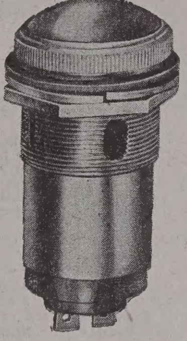
All lamps are removable from front of panel. A 1" panel hole is required for mounting.

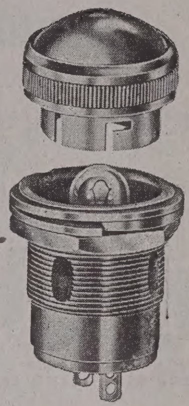
Navy Specifications: 17-P-5 FBG Bakelite Housing.
17-P-4 CFG Moulded Bakelite Housing.

- Heavy terminals for soldering or terminal screw connection. Terminals are perfectly secured — so that they do not turn or become loose regardless of the severity of the tests that they may be put through.
- Dialco anchoring feaures of the lamp housing permanently seals the position of the bayonet shell so that the lamp is easily removed from front of panel.
- **Material:** Brass or Aluminum S.T.
- **Finishes:** Dull White Nickel. Black Nickel, Satin Chrome, Polished Chrome, Anodized, Ebinol, and Olive Drab Anodized Lusterless U.S.A. Signal Corps Specifications.
- **Lenses:** Series "E", "G", "R": — Smooth or Diamond-faced. If smooth, specify clear color. Sandblasted-on-back or Sandblasted-over-all. Series "F", "H": — Torpedo lens.
- **Lens Colors:** Red, Green, Amber, Blue, Yellow, Opal, White, Clear.
- **LAMP SPECIFICATIONS: See page N-14.**

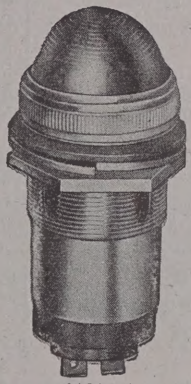
SERIES "E"

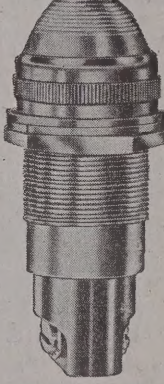

41901


41206


41410

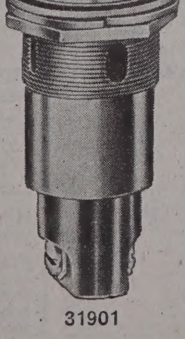
SERIES "F"

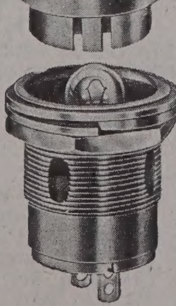

41206-5


41901-5

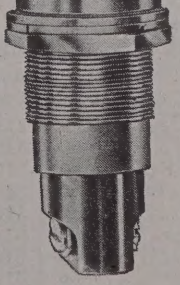
When ordering, please be sure to give the following information in regard to the Jewel: Color, whether Smooth-Faced or Faceted; if Smooth-faced, whether Clear, Sandblasted-on-back, or Sandblasted-overall. Also specify type of Socket and Lamp. See page N-14 for lamp chart and price list.

SERIES "G"

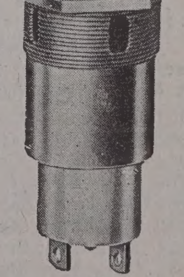

31901


31410

SERIES "H"


31901-5

SERIES "R"


31601

DIALCO WARNING & SIGNAL

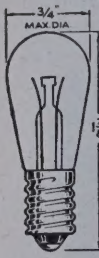
PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

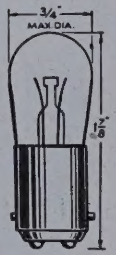
PRICE LIST: DIALCO PILOT LIGHT ASSEMBLIES

SERIES A-B-C-D-E-F-G-H-R
Illustrated on pages N-12 and N-13

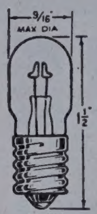
In selecting a Pilot Light, a deciding factor is the type and size of bulb to be housed within the unit. We show here 9 standard types of bulbs, listing each Series in relation to these bulbs. After you have decided on the type of Pilot Light, the use of these charts will facilitate selection of the correct unit in relation to the bulb you intend to use.



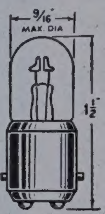
S-6
CAND. SC.



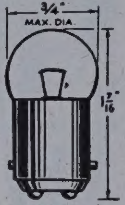
S-6
CAND. BAY.



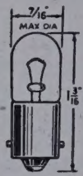
T-4½
CAND. SC.
NEON



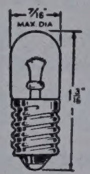
T-4½
D.C. BAY.
NEON



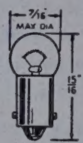
G-6
CAND. BAY.



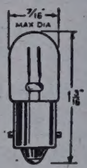
T-3¼
MIN. BAY.



T-3¼
MIN. SC.



G-3½
MIN. BAY.



T-3¼—NE51
NEON

NOTE:

PRICES DO NOT INCLUDE BULBS.

Prices on bulbs on application.

Series "A"

1½" MARINE CAP SCREW PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
61901	**S6 Cand. Sc.**	**$3.50***
61202	S6 Cand. Bay.	3.50
61914	T4½ Neon Cand. Sc.	3.50
61206	T4½ Neon Cand. Bay.	3.50
61204	G6 Cand. Bay.	3.50
61410	T3¼ Min. Bay.	3.50
61511	T3¼ Min. Sc.	3.50
61412	G3½ Min. Bay.	3.50
61408	T3¼ Neon NE51	3.50

Series "B"

1" MARINE CAP SCREW PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
51901	**S6 Cand. Sc.**	**$1.75***
51202	S6 Cand. Bay.	1.75
51914	T4½ Neon Cand. Sc.	1.75
51206	T4½ Neon Cand. Bay.	1.75
51204	G6 Cand. Bay.	1.75
51410	**T3¼ Min. Bay.**	**1.75***
51511	T3¼ Min. Sc.	1.75
51412	G3½ Min. Bay.	1.75
51408	T3¼ Neon NE51	1.75

Series "C"

1" MARINE CAP SCREW FULL VIEW TORPEDO PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
51901-5	**S6 Cand. Sc.**	**$1.75***
51202-5	S6 Cand. Bay.	1.75
51914-5	T4½ Neon Cand. Sc.	1.75
51206-5	**T4½ Neon Cand. Bay.**	**1.75***
51204-5	G6 Cand. Bay.	1.75
51410-5	T3¼ Min. Bay.	1.75
51511-5	T3¼ Min. Sc.	1.75
51412-5	G3½ Min. Bay.	1.75
51408-5	T3¼ Neon NE51	1.75

Series "D"

1" MARINE CAP SCREW "VARI-DIM" PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
71901	**S6 Cand. Sc.**	**$2.50***
71202	S6 Cand. Bay.	2.50
71914	T4½ Neon Cand. Sc.	2.50
71206	T4½ Neon Cand. Bay.	2.50
71204	G6 Cand. Bay.	2.50
71410	T3¼ Min. Bay.	2.50
71511	T3¼ Min. Sc.	2.50
71412	G3½ Min. Bay.	2.50
71408	T3¼ Neon NE51	2.50

Series "E"

1" LOCK-TITE FRICTION BAYONET LOCK PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
41901	**S6 Cand. Sc.**	**$1.50***
41202	S6 Cand. Bay.	1.50
41914	T4½ Neon Cand. Sc.	1.50
41206	**T4½ Neon Cand. Bay.**	**1.50***
41204	G6 Cand. Bay.	1.50
41410	**T3¼ Min. Bay.**	**1.50***
41511	T3¼ Min. Sc.	1.50
41412	G3½ Min. Bay.	1.50
41408	T3¼ Neon NE51	1.50

Series "F"

1" LOCK-TITE FRICTION BAYONET LOCK, FULL-VIEW TORPEDO PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
41901-5	**S6 Cand. Sc.**	**$1.50***
41202-5	S6 Cand. Bay.	1.50
41914-5	T4½ Neon Cand. Sc.	1.50
41206-5	**T4½ Neon Cand. Bay.**	**1.50***
41204-5	G6 Cand. Bay.	1.50
41410-5	T3¼ Min. Bay.	1.50
41511-5	T3¼ Min. Sc.	1.50
41412-5	G3½ Min. Bay.	1.50
41408-5	T3¼ Neon NE51	1.50

Series "G"

1" STANDARD FRICTION-FIT PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
31901	**S6 Cand. Sc.**	**$1.50***
31202	S6 Cand. Bay.	1.50
31914	T4½ Neon Cand. Sc.	1.50
31206	T4½ Neon Cand. Bay.	1.50
31204	G6 Cand. Bay.	1.50
31410	**T3¼ Min. Bay.**	**1.50***
31511	T3¼ Min. Sc.	1.50
31412	G3½ Min. Bay.	1.50
31408	T3¼ Neon NE51	1.50

Series "H"

1" STANDARD FRICTION-FIT FULL-VIEW TORPEDO PILOT LIGHTS

Assembly Cat. No.	For Bulb Type	List
31901-5	**S6 Cand. Sc.**	**$1.50***
31202-5	S6 Cand. Bay.	1.50
31914-5	T4½ Neon Cand. Sc.	1.50
31206-5	T4½ Neon Cand. Bay.	1.50
31204-5	G6 Cand. Bay.	1.50
31410-5	T3¼ Min. Bay.	1.50
31511-5	T3¼ Min. Sc.	1.50
31412-5	G½ Min. Bay.	1.50
31408-5	T3¼ Neon NE51	1.50

Series "R"

1" STANDARD FRICTION-FIT PILOT LIGHT with PORCELAIN BASE

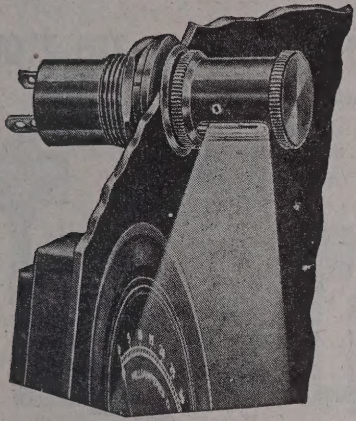
Assembly Cat. No.	For Bulb Type	List
31601	**S6 Cand. Sc.**	**$1.25***
31614	T4½ Neon Cand. Sc.	1.25

***UNITS LISTED IN BOLD FACE** are illustrated on pages N-12 and N-13.

BASE ABBREVIATIONS: Cand. Sc.—Candelabra Screw; Cand. Bay.—Candelabra Bayonet; D. C. Bay—Double Contact Bayonet; Min. Bay.—Miniature Bayonet; Min. Sc.—Miniature Screw.

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES



Series "L"

DIALCO "LIGHT SHIELD"

PILOT LIGHT ASSEMBLY — Series "L"

This unit is designed to direct a beam of light within a rotation of 360 degrees. A turn of the knurled head casts the light on any localized spot, at any desired angle. The unit may be inserted in a panel mounting hole of $\frac{11}{16}$" diameter.

FEATURES:

Socket Housing is made of Navy Specification 17P5FBG Bakelite. Sealed with Bakelite Varnish . . . Bulb is easily removable from front of panel . . . Housing and shield are made of brass or aluminum . . . Vibration-proof, friction-snap fit between shield and housing.

Finishes: Dull White Nickel, Black Nickel, Satin Chrome, Polished Chrome, Anodized Chrome, Ebinol, and Olive Drab Anodized Lusterless U.S.A. Signal Corps Specifications.

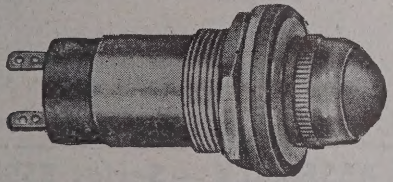
Silver-plated, or tinned, terminals are vibration-proof. Unit may be grounded or ungrounded.

DIALCO precision design and rugged construction qualifies this unit for service on important instrument panel installations.

SERIES "L"

Assembly Cat. No.	For Bulb Type	List
89410	T3¼ Min. Bay.	$1.50
89511	T3¼ Min. Sc.	1.50
89412	G3½ Min. Bay.	1.50
89408	T3¼ Neon NE51	1.50

FOR LAMP SPECIFICATIONS SEE PAGE N-14



Series "K"

DIALCO ½" SIGNAL ASSEMBLY

A versatile, rugged unit which mounts in an $\frac{11}{16}$" panel hole, and has the following features:

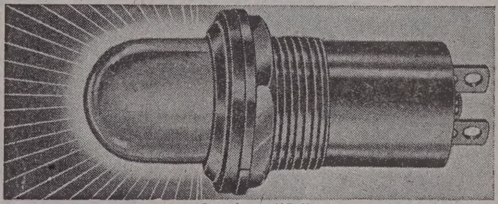
Housing made of Navy Specification 17P-FBG BAKELITE. Lamp removable from front of panel. Heavy, silver-plated terminals are perfectly secured. Dialco anchoring features of the lamp housing permanently seals the position of the bayonet shell. *Space washer, lockwasher, and nut are supplied.*

Material used is Brass or Aluminum 17 S.T. in choice of 7 platings. *Lenses may be smooth or diamond-faced.* If smooth, specify clear color, sand-blasted-on-back or sandblasted-over-all. *Also specify color of lens.* Flat lenses may be had with or without etched numbers, letters, or words.

SERIES "K"

Assembly Cat. No.	For Bulb Type	List**
81410	T3½ Min. Bay.	$1.25
81511	T3¼ Min. Sc.	1.25
81412	G3½ Min. Bay.	1.25
81408	T3¼ Neon NE51	1.25

**Prices quoted are for Brass.
Prices for Aluminum on request.



Series "P"

DIALCO "FULL-VIEW" NEON* PILOT LIGHT ASSEMBLY — Series "P"

Combines the penetrating glow of Neon bulbs and visibility from all angles.

Neon bulbs have these special advantages: A distinctive orange-red glow. Dependable long life. Low current consumption. Resist vibration or shock. Operate direct on high voltage circuits. Emit practically no heat.

Series "P" units are especially effective with Neon bulbs, and feature a full-view plastic head which permits visibility of the glow from all angles. The head unscrews from front of panel, facilitating replacement of bulbs.

WE CAN SUPPLY ALL PILOT LIGHT ASSEMBLIES COMPLETE WITH ANY REQUIRED GENERAL ELECTRIC OR WESTINGHOUSE LAMP.

*Also for Mazda panel lamps

SERIES "P"

Assembly Cat. No.	For Bulb Type	List
91410	T3¼ Min. Bay.	$1.50
91511	T3¼ Min. Sc.	1.50
91412	G3½ Min. Bay.	1.50
91408	T3¼ Neon NE51	1.50

FOR LAMP SPECIFICATIONS SEE PAGE N-14

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

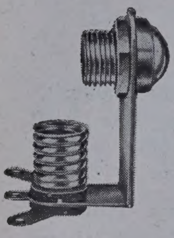
MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

Half-Inch Pilot Light Assemblies — Series 510-610-610U-710-710U

Have Exclusive "PERMALOCK" Anchoring Feature

Units shown here are only representative of our extensive line. For additional information, send specifications.

Fool-proof, "short-proof" construction. All units shown here have the exclusive Dialco "Permalock" anchoring feature.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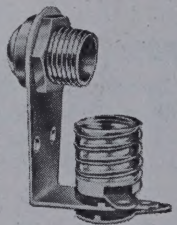
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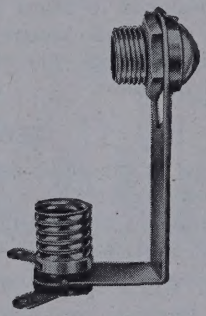
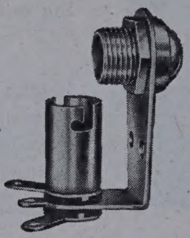

610 Universal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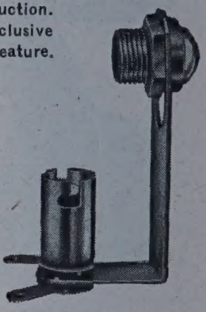

710 Universal

Low cost space saver . . . Mounts in single $\frac{7}{16}$" hole . . . Nickel plated brass Jewel Holder . . . Equipped with Candelabra 110 V, Miniature Bayonet or Miniature Screw Base Sockets . . . Choice of smooth or facet-faced jewels. **Jewel Color Choice:** Red, Green, Amber, Yellow, Blue, Opal and Clear . . . Has an extra center grounding lug . . . 610 Universal is a longer, adjustable bracket for use where more accurate focus of jewel to lamp filament is required. **Lamps:** See page N-14.

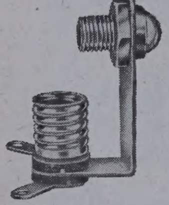
		List Price
510-F	Miniature Screw Socket Assembly with Faceted Jewel	$0.25
510-S	Miniature Screw Socket Assembly with Smooth Jewel	.25
610-F	Candelabra 110 Volt Socket Assembly with Faceted Jewel	.30
610-S	Candelabra 110 Volt Socket Assembly with Smooth Jewel	.30
610-UF	Candelabra 110 Volt Adjustable Bracket Assembly with Faceted Jewel	.35
610-US	Candelabra 110 Volt Adjustable Bracket Assembly with Smooth Jewel	.35

		List Price
710-F	Miniature Bayonet Socket Assembly with Faceted Jewel	$0.30
710-S	Miniature Bayonet Socket Assembly with Smooth Jewel	.30
710-UF	Adjustable Miniature Bayonet Socket Assembly with Faceted Jewel	.35
710-US	Adjustable Miniature Bayonet Socket Assembly with Smooth Jewel	.35

When ordering, please specify Color of Jewel

⅜" PILOT LIGHT ASSEMBLY — Series 555-755

Have Exclusive "PERMALOCK" Anchoring Feature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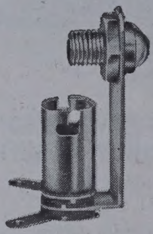

755

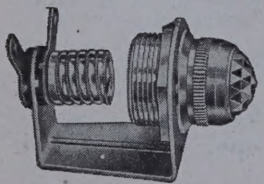
Mounts in $\frac{5}{16}$" hole . . . Nickel-plated brass jewel holder. Equipped with miniature screw base and miniature bayonet base sockets . . . Jewels are smooth or faceted . . . **Jewel Colors:** Red, Green, Amber, Yellow, Blue, Opal, Clear. **Lamps:** See page N-14.

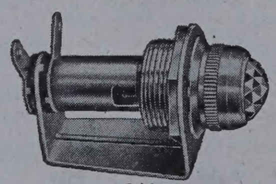
		List Price
555F	Miniature Screw Socket Assembly with Faceted Jewel	$0.25
555S	Miniature Screw Socket Assembly with Smooth Jewel	.25
755F	Miniature Bayonet Socket Assembly with Faceted Jewel	.30
755S	Miniature Bayonet Socket Assembly with Smooth Jewel	.30

When ordering, please specify Color of Jewel

REMOVABLE ½" JEWEL PILOT LIGHT ASSEMBLY—Series 810

Have Exclusive "PERMALOCK" Anchoring Feature


810M


810B

Mounts in single $\frac{11}{16}$" hole . . . Designed for standard Mazda Miniature Bayonet or Miniature Screw Base lamps . . . Lamps are instantly removable from front of panel . . . Embossed Rib gives bracket added strength and assures perfect alignment . . . Screw-in type Jewel Holder, nickel-plated brass . . . **Lenses:** Smooth or facet-faced . . . **Lens Colors:** Red, Green, Amber, Yellow, Blue, Opal and Clear. **Lamps:** See page N-14.

		List Price
810-MF	Miniature Screw Socket Assembly with Faceted Jewel	$0.40
810-MS	Miniature Screw Socket Assembly with Smooth Jewel	.40
810-BF	Miniature Bayonet Socket Assembly with Faceted Jewel	.40
810-BS	Miniature Bayonet Socket Assembly with Smooth Jewel	.40

When ordering, please specify Color of Jewel

DIALCO WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

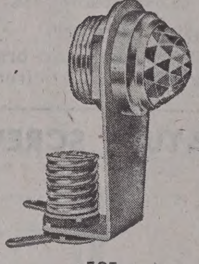
THREE-QUARTER INCH PILOT LIGHT ASSEMBLIES — Series 525-625-725

Exclusive "PERMALOCK" Anchoring Feature

All units shown on this page are absolutely fool-proof and "short-proof," thanks to the "Permalock" anchoring feature. Lugs, washers, bracket, and socket are permanently locked together, making a shake-proof, fool-proof unit.

- Fills need for a low priced large jewel pilot light assembly.
- Requires single $\frac{11}{16}$" hole for mounting.
- Available with Candelabra 110V, Miniature Bayonet and Miniature screw base sockets.
- Faceted or Smooth Faced Jewels.
- Jewel Colors: Red, Green, Amber, Blue, Opal and Clear.

Note: Specify Color of Jewel When Ordering.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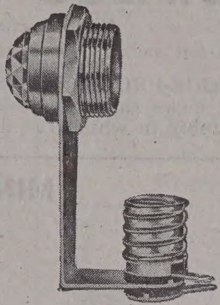
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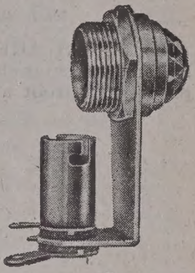
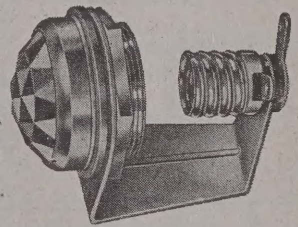

725

		List Price
525-F	Miniature Screw Socket Assembly with Faceted Jewel	$0.60
525-S	Miniature Screw Socket Assembly with Smooth Jewel	.60
625-F	Candelabra 110 Volt Socket Assembly with Faceted Jewel	$0.60
625-S	Candelabra 110 Volt Socket Assembly with Smooth Jewel	.60
725-F	Miniature Bayonet Socket Assembly with Faceted Jewel	$0.60
725-S	Miniature Bayonet Socket Assembly with Smooth Jewel	.60

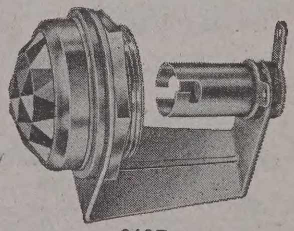
ONE INCH OPEN TYPE PILOT LIGHT ASSEMBLY—Series 910

Have Exclusive "PERMALOCK" Anchoring Feature

A low priced unit for most applications . . . Requires single one inch hole for mounting . . . Embossed rib in center of bracket gives added rigidity and strength; assures perfect alignment . . . Uses standard Mazda lamps, removable from front of panel through use of Panel Bushing with Jewel holder . . . Jewel holder of highly polished chrome plated brass . . . Available with Candelabra 110 Volt, Miniature Bayonet or Miniature screw base sockets . . . Faceted or Smooth Faced Jewels . . . Colors optional, Red, Green, Amber, Blue, Opal, White, and Clear Jewels . . . Frosted White Jewels can be furnished with removable colored discs color showing only when lamp is on.


910M

		List Price
910-MF	Miniature Screw Socket Assembly with Faceted Jewel	.85
910-MS	Miniature Screw Socket Assembly with Smooth Jewel	.85
910-MD	Miniature Screw Socket Assembly, Frosted White Jewel with Removable Colored Disc	.85
910-BF	Miniature Bayonet Socket Assembly with Faceted Jewel	.85
910-BS	Miniature Bayonet Socket Assembly with Smooth Jewel	.85
910-BD	Miniature Bayonet Socket Assembly, Frosted White Jewel with Removable Colored Disc	.85
910-CF	Candelabra 110 Volt Socket Assembly with Faceted Jewel	$0.85
910-CS	Candelabra 110 Volt Socket Assembly with Smooth Jewel	.85
910-CD	Candelabra 110 Volt Socket Assembly, Frosted White Jewel with Removable Colored Disc	.85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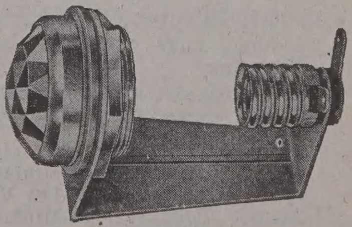

910C

Plus LAMPS . . .
To help speed production, Dialco offers Pilot Lights completely assembled with G.E. or Westinghouse Lamps—any type or voltage. Samples submitted on request.

LAMPS: We can supply any of the standard lamps shown on page N-14, or any special lamp, in conjunction with the required Pilot Light Assembly. Send specifications for immediate solution of your problem.

DIALCO WARNING & SIGNAL **PILOT LIGHT** ASSEMBLIES

MANUFACTURERS OF THE *MOST EXTENSIVE* LINE
OF WARNING & SIGNAL PILOT LIGHT ASSEMBLIES

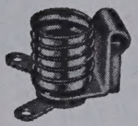
DIALCO SOCKET ASSEMBLIES

Have Exclusive "PERMALOCK" Anchoring Feature

Units shown here are only representative of our extensive line. For additional information, send specifications.

ALL UNITS ARE FOOL-PROOF and "SHORT-PROOF" . . . The exclusive Dialco "Permalock" Anchoring Feature permanently locks the lugs, washers, socket, and bracket. The result is a rugged, immovable, shake-proof, fool-proof assembly in which the danger of a short-circuit is eliminated.

MINIATURE SCREW BASE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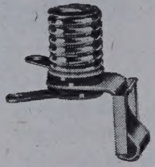
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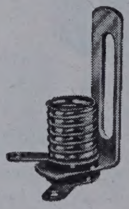
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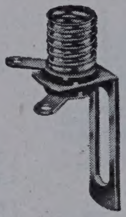
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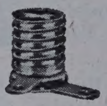
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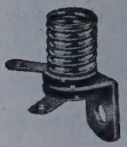
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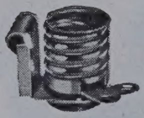
CANDELABRA 110 VOLT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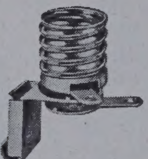
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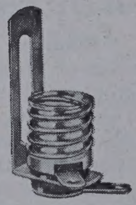
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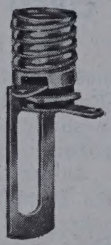
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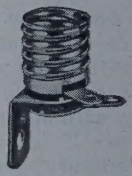
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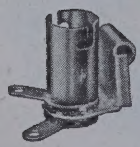
MINIATURE BAYONET BASE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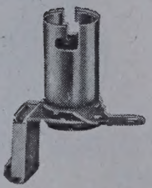
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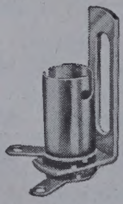
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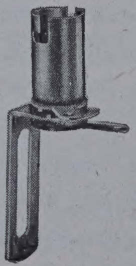
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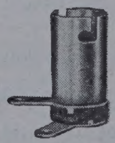
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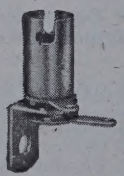
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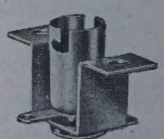

711

- Cadmium Plating on all brackets.
- Terminal Lugs of tinned brass facilitate rapid soldering.
- Assemblies also available with single lug terminal, other connection effected through grounded bracket.
- Terminals can be supplied in any desired position.
- To assure positive contact, bayonet type sockets are furnished with approved coil spring construction.
- Highest grade insulating washers furnished with all assemblies.

500 Series—Miniature Screw Base Socket Assemblies	List Price **$0.07**
600 Series—110 Volt Candelabra Socket Assemblies	List Price **.09**
700 Series—Miniature Bayonet Socket Assemblies	List Price **.09**

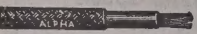
We are equipped to manufacture any type of bracket to specifications, and supply any type of finish and insulation.

FOR LAMP SPECIFICATIONS SEE PAGE N-14

ALPHA-WIRE-PRODUCTS

LACQUERED HOOK-UP AND LEAD-IN WIRE

High Gloss Lacquered Braid

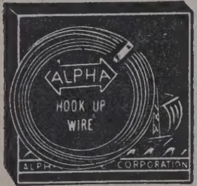


GENERAL PURPOSE: For point to point soldering connections on transformers, amplifiers, panel hook-up, etc., where a low loss dielectric is required. It is not a pushback wire but will strip easily.

CONSTRUCTION: Stranded tinned conductor, free stripping rubber, silk braid highly lacquered.

No.	Length Feet	Size	Tinned Strand	Rubber Thickness	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1511	25 Spool	20	10/30	1/64″	7000	290	.090″	$0.30
1513	100 Spool	20	10/30	1/64″	7000	290	.090″	1.25
1515	500 Spool	20	10/30	1/64″	7000	290	.090″	5.65
1521	25 Spool	18	16/30	1/64″	7000	300	.110″	.45
1523	100 Spool	18	16/30	1/64″	7000	300	.110″	1.65
1525	500 Spool	18	16/30	1/64″	7000	300	.110″	7.50
1531	25 Spool	18	16/30	1/32″	8500	460	.135″	.45
1533	100 Spool	18	16/30	1/32″	8500	460	.135″	1.70
1535	500 Spool	18	16/30	1/32″	8500	460	.135″	8.00
1541	25 Spool	16	26/30	1/32″	8500	460	.150″	.55
1543	100 Spool	16	26/30	1/32″	8500	460	.150″	2.25
1545	500 Spool	16	26/30	1/32″	8500	460	.150″	10.25

Size #18 Stranded 1/32″ Stock Colors: Black, Red, Green, Yellow, Blue, Brown, White. Other sizes Stock Colors: Black and Red.



"LACTIV" WIRE (Pushback)

GENERAL PURPOSE: Pushback hook-up wire in various colors for circuit identification.

CONSTRUCTION: Single conductor, solid or stranded tinned copper, served, .010″ special rubber compound, colored cotton braid waxed.

No.	Length	Size	Strand	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1411	25 Ft. Spool	22	Solid	2500	16	.080″	$0.22
1413	100 Ft. Spool	22	Solid	2500	16	.080″	.85
1415	1000 Ft. Spool	22	Solid	2500	16	.080″	7.75
1421	25 Ft. Spool	20	Solid	2400	15.5	.090″	.30
1423	100 Ft. Spool	20	Solid	2400	15.5	.090″	1.00
1425	1000 Ft. Spool	20	Solid	2400	15.5	.090″	9.00
1431	25 Ft. Spool	18	Solid	2450	16	.097″	.33
1433	100 Ft. Spool	18	Solid	2450	16	.097″	1.15
1435	1000 Ft. Spool	18	Solid	2450	16	.097″	10.65
1441	25 Ft. Spool	16	Solid	2200	15	.105″	.40
1443	100 Ft. Spool	16	Solid	2200	15	.105″	1.45
1445	1000 Ft. Spool	16	Solid	2200	15	.105″	14.00
1451	25 Ft. Spool	14	Solid	2150	14.8	.130″	.55
1453	100 Ft. Spool	14	Solid	2150	14.8	.130″	1.95
1455	1000 Ft. Spool	14	Solid	2150	14.8	.130″	18.75
1301	25 Ft. Spool	22	7/30	2500	16	.080″	.25
1303	100 Ft. Spool	22	7/30	2500	16	.080″	.95
1305	1000 Ft. Spool	22	7/30	2500	16	.080″	8.50
1311	25 Ft. Spool	20	10/30	2300	15.5	.090″	.30
1313	100 Ft. Spool	20	10/30	2300	15.5	.090″	1.05
1315	1000 Ft. Spool	20	10/30	2300	15.5	.090″	9.75
1321	25 Ft. Spool	18	16/30	2400	16	.097″	.35
1323	100 Ft. Spool	18	16/30	2400	16	.097″	1.25
1325	1000 Ft. Spool	18	16/30	2400	16	.097″	11.50
1331	25 Ft. Spool	16	26/30	2200	15	.105″	.45
1333	100 Ft. Spool	16	26/30	2200	15	.105″	1.75
1335	1000 Ft. Spool	16	26/30	2200	15	.105″	16.25
1341	25 Ft. Spool	14	41/30	2150	14.8	.130″	.60
1343	100 Ft. Spool	14	41/30	2150	14.8	.130″	2.20
1345	1000 Ft. Spool	14	41/30	2150	14.8	.130″	21.00

22-20-18—Stranded and Solid Stock Colors: Black, Red, Green, Yellow, Blue, Brown, White.
16-14—Stranded and Solid Colors: Black and Red.

SHIELDED LEAD-IN AND GROUND WIRE

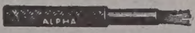
ALPHA WIRE CORPORATION
ALPHA
ALPHA

GENERAL PURPOSE: Eliminates interference caused by motors, high tension wires, X-Ray machines or other apparatus that radiate electrical impulses. Can also be used for grid and plate leads.

CONSTRUCTION: Stranded tinned conductor, free strip rubber, braided tinned copper shield overall. Frequency: 3000 K.C.

No	Length Feet	Size	Strand	Thickness Rubber	Maximum Capacity Per Foot	Surge Impedance (Ohms)	Power Factor Percent	O. D.	List Price
1201	250 Spool	14	41/30	3/64″	84 mmf.	27.7	1.98	.180″	$10.00
1205	50 Carton	14	41/30	3/64″	84 mmf.	27.7	1.98	.180″	2.15
1211	250 Spool	16	26/30	1/32″	66 mmf.	33.7	1.63	.150″	7.50
1215	50 Carton	16	26/30	1/32″	66 mmf.	33.7	1.63	.150″	1.55
1221	500 Spool	18	16/30	1/64″	97 mmf.	23.1	1.90	.115″	11.65
1225	500 Spool	20	10/30	1/64″	92 mmf.	29.3	2.10	.107″	9.40

LACQUERED PRIMARY WIRE

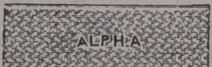


GENERAL PURPOSE: For automobile head, tail, side, dashboard lamps, horn, spotlight, instrument leads and general primary voltage applications.

CONSTRUCTION: Stranded soft annealed tinned copper, insulated with rubber, over which is a highly lacquered braid. Oil, heat, and moisture-resistant.

No.	Spool	Size	Strand	Rubber	O.D.	List	No.	Spool	Size	Strand	Rubber	O.D.	List
1983	100′	10	19/23	1/32″	.208″	$6.25	1995	100′	16	26/30	1/32″	.155″	$2.15
1989	100′	18	16/30	1/64″	.110″	1.60	1996	500′	16	26/30	1/32″	.155″	9.75
1990	500′	18	16/30	1/64″	.110″	7.25	1997	100′	14	41/30	1/32″	.170″	2.50
1991	100′	18	16/30	1/32″	.147″	1.65	1998	500′	14	41/30	1/32″	.170″	11.50
1992	500′	18	16/30	1/32″	.147″	7.50	1999	100′	12	19/25	1/32″	.190″	3.75

BRAIDED SHIELDING

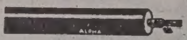


GENERAL PURPOSE: For shielding speaker leads, lead-ins, amplifier wires, auto radio installations. Also for bonding.

CONSTRUCTION: Composed of very fine soft annealed copper wires braided and rolled flat.

BARE COPPER				TINNED COPPER			
No.	Spool	I.D.	List	No.	Spool	I.D.	List
1226	50 Ft.	1/4″	$1.65	1230	50 Ft.	3/16″	$1.50
				1231	50 Ft.	1/4″	1.90
1227	50 Ft.	3/8″	1.90	1232	50 Ft.	3/8″	2.25
				1232D	250 Ft.	3/8″	10.00
1228	50 Ft.	5/8″	3.90	1233	50 Ft.	5/8″	4.00

"SUPER HI-TENSION" KINKLESS TEST LEAD WIRE



GENERAL PURPOSE: As test leads in analyzers, oscillators and all other types of testing apparatus or wherever an EXTRA FLEXIBLE insulated wire is required.

CONSTRUCTION: #20-41/36 tinned soft annealed copper, concentric strand, cotton wrap, 3/64″ "Super Hi-Tension" rubber, satin finish.

No.	Spool Feet	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1633	100	10,000 V.	710	.140″	$1.70
1635	500	10,000 V.	710	.140″	8.00

STOCK COLORS: RED and BLACK

Heavy Duty Type

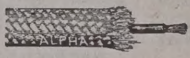
GENERAL PURPOSE: For television therapeutic equipment, analyzers, oscillators, etc. or wherever a heavy duty high voltage line is required.

CONSTRUCTION: #18-66 36 tinned soft annealed copper wire, concentric strand, cotton wrap, heavy "Super Hi-Tension" rubber, satin finish.

1637	100	22,000 V.	Over 1,000	.248″	$5.00
1638	500	22,000 V.	Over 1,000	.248″	22.50

STOCK COLORS: RED and BLACK

AUTO RADIO SHIELDED LEAD-IN

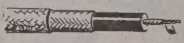


GENERAL PURPOSE: As an antenna lead-in to reduce interference of ignition pick-up.

CONSTRUCTION: Single conductor, stranded tinned copper, insulated with rubber, jute filters, close tinned copper shield overall.

No.	Spool	Max. Capacity Per Ft.	O.D.	List
1239	100′	27.6 mmf.	.250″	$7.50
1240	100′	9.7 mmf.	.500″	11.25

SHIELDED LOW LOSS CABLE

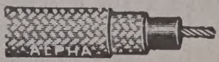


GENERAL PURPOSE: For auto radios, lead-ins, phonograph pick-ups, short wave receivers and for grid leads in the input stages of PA amplifiers.

CONSTRUCTION: Single conductor #20-10/30 stranded tinned copper, insulated with low loss rubber compound, white silk braid, tinned copper shield overall.

No.	Spool	Capacity Per Foot	O.D.	List
1241	100 Ft.	22.6 mmf.	.225″	$4.90

7 MM SHIELDED IGNITION CABLE

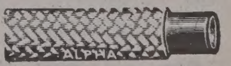


GENERAL PURPOSE: For automotive and aircraft ignition systems requiring grounding to overcome interference.

CONSTRUCTION: Single conductor #16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered, braided tinned copper shield overall.

No.	Spool	O.D.	List
1193	100 Ft.	.300″	$8.00

SHIELDED LOOM

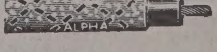


GENERAL PURPOSE: For shielding auto antenna lead-ins. Shields the output of signal generators.

CONSTRUCTION: Made of heavy braided loom, weatherproofed and covered with a closely woven tinned copper shield.

No.	Spool	I.D.	List
1236	50 Ft.	3/8″	$6.25
1237	50 Ft.	5/16″	5.00
1238	50 Ft.	3/16″	3.65

7 MM LACQUERED IGNITION WIRE

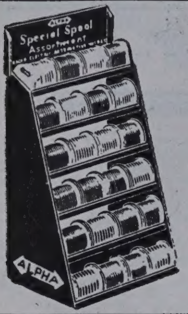


GENERAL PURPOSE: For automotive ignition systems.

CONSTRUCTION: Single conductor #16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered.

No.	Spool	O.D.	List
1981	100 Ft.	.275″	$4.40

ALPHA-WIRE-PRODUCTS



ALPHA SPECIAL SPOOL ASSORTMENT

On Attractive Metal Spools

. . . Including . . .

PUSHBACK
HOOK-UP
RUBBER COVERED
AUTOMOTIVE PRIMARY
SHIELDED
LEAD-IN
FIXTURE
LAMP WIRE

LIST 63c EACH

Catalog No.		Approximate Quantity per Spool
9801	#22 Solid Pushback Wire-Assorted Colors......	85 Ft.
9802	#20 Solid Pushback Wire-Assorted Colors......	70 Ft.
9804	#18 Solid Pushback Wire-Assorted Colors......	60 Ft.
9805	#16 Solid Pushback Wire-Assorted Colors......	40 Ft.
9806	#14 Solid Pushback Wire-Assorted Colors......	35 Ft.
9811	#22 Stranded Pushback Wire-Assorted Colors..	70 Ft.
9812	#20 Stranded Pushback Wire-Assorted Colors..	60 Ft.
9814	#18 Stranded Pushback Wire-Assorted Colors..	50 Ft.
9815	#16 Stranded Pushback Wire-Assorted Colors..	35 Ft.
9816	#14 Stranded Pushback Wire-Assorted Colors..	25 Ft.
9820	#20 Stranded 1/32" R. C. Wire-Black.........	100 Ft.
9822	#18 Stranded 1/32" R. C. Wire-Black.........	75 Ft.
9824	#16 Stranded 1/32" R. C. Wire-Black.........	45 Ft.
9827	#14 Stranded 3/64" R. C. Wire-Black.........	35 Ft.
9828	#18 Solid 3/64" R. C. Lead-In Wire-Black.....	70 Ft.
9829	#20 Solid 3/64" R. C. Lead-In Wire-Black.....	100 Ft.
9830	#18 Stranded 1/32" R. C. Lacquered Braid-Assorted Colors....................	40 Ft.
9834	#20 Stranded 1/64" R. C. Shielded Lead-In....	35 Ft.
9837	"Super Hi-Tension" Test Prod Colored Rubber Wire-Black and Red.....................	35 Ft.
9838	Heavy Duty "Super Hi-Tension" Test Prod Colored Rubber Wire-Black and Red........	12 Ft.
9840	A.C.-D.C. Indoor Aerial Wire................	100 Ft.
9848	#18 E-Z Strip All Rubber Parallel Lamp Cord-Approved—Assorted Colors................	25 Ft.
9870	#18 Plain Tinned Copper.....................	100 Ft.
9875	#18 Annunciator (Bell) Wire.................	100 Ft.

MAGNET WIRE

Plain Enameled

Size B & S	38¢ Special Footage Spool	List Price	¼ Lb. Spool	List Price	½ Lb. Spool	List Price
14	27	$0.38	19	$0.28	39	$0.53
16	45	.38	30	.30	60	.53
18	60	.38	50	.30	100	.53
20	95	.38	80	.33	160	.53
22	150	.38	125	.35	250	.55
24	220	.38	200	.35	400	.60
26	310	.38	315	.43	635	.63
28	460	.38	505	.45	1010	.75
30	610	.38	805	.48	1610	.83
32	820	.38	1275	.53	2550	.90
34	1220	.38	2030	.63	4060	1.05
36	1620	.38	3220	.73	6440	1.20
38	2000	.38	5120	.90	10240	1.43
40	2500	.38	8140	1.38	16280	2.10

Double Cotton Covered

14	27	$0.38	19	$0.33	39	$0.58
16	37	.38	30	.35	60	.58
18	53	.38	50	.35	95	.63
20	65	.38	75	.40	150	.68
22	90	.38	115	.45	235	.78
24	120	.38	180	.48	360	.93
26	160	.38	280	.60	560	1.10
28	190	.38	430	.70	860	1.33
30	220	.38	645	.85	1290	1.58
32	240	.38	965	1.03	1930	1.95
34	260	.38	1350	1.45	2700	2.80
36	280	.38	1675	2.04	3350	3.85

Double Silk Covered

18	32	$0.38	50	$0.55	100	$1.05
20	44	.38	80	.65	160	1.25
22	62	.38	125	.73	250	1.43
24	87	.38	195	.85	395	1.65
26	105	.38	310	1.04	620	2.00
28	125	.38	490	1.15	980	2.25
30	145	.38	765	1.30	1530	2.50
32	170	.38	1190	1.75	2380	3.40
34	200	.38	1785	2.25	3570	4.40
36	230	.38	2685	3.50	5370	6.75

FLEXIBLE VARNISHED TUBING

RADIO TUBING—(Spaghetti). A sleeving with a heavy coat of varnish, in high gloss vivid colors. Average dielectric strength: **5,000 volts.**

SATURATED SLEEVING—A fibre yarn sleeving saturated with high grade insulating varnish. Cuts clean and has a smooth interior wall. Average dielectric strength: **1,200 volts.**

MAGNETO TUBING—The production of this type of tubing is under rigid control so as to insure a maximum in quality. It is thoroughly impregnated with a varnish of maximum insulating value. It is resistant to heat, oil, gas and acids. Colors are bright and vivid. Average dielectric strength: **7,000 volts.**

Note: Sizes follow the B & S System of gauging wires. For instance, a #10 tubing will fit over a #10 bare wire or any wire with an insulation of which the O.D. is equivalent to #10 B & S gauge. If in doubt, it is best to submit a sample of the wire or product to be covered.

		List Prices Per 100 Feet					List Prices Per 100 Feet		
No.	App. I.D.	Radio Tubing	Sat. Sleeving	Magneto Tubing	No.	App I.D.	Radio Tubing	Sat. Sleeving	Magneto Tubing
20	.034	$4.15	$2.75	$6.25	8	.133	$6.25	$4.50	$9.40
19	.038	4.15	2.75	6.25	7	.148	6.90	4.75	10.00
18	.042	4.15	2.75	6.25	6	.166	7.65	5.15	10.75
17	.047	4.15	2.75	6.25	5	.186	8.25	5.65	11.50
16	.053	4.25	2.90	6.50	4	.208	9.00	6.15	12.25
15	.059	4.25	2.90	6.75	3	.234	9.75	6.65	13.00
*14	.066	4.70	3.25	7.00	2	.263	10.40	7.15	14.50
*13	.076	4.75	3.40	7.15	1	.294	10.75	7.65	16.25
*12	.085	4.90	3.50	7.25	0	.330	12.25	8.25	18.75
11	.095	5.15	3.65	8.00	3/8	.375	14.75	8.90	21.25
10	.106	5.25	3.75	8.50	7/16	.438	17.25	9.50	23.75
9	.118	5.65	4.25	9.00	1/2	.500	19.75	10.15	26.25
					5/8	.625	22.25	10.75	31.25

Tolerances: Sizes 0 to 2—plus or minus .005"
3 to 13—plus or minus .004"
14 to 20—plus or minus .002"

Lengths—Standard 36"
***30"**

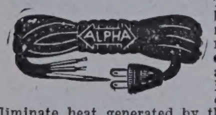
AC-DC ANTENNA WIRE

GENERAL PURPOSE: Ideal replacement wire for universal midgets, indoor aerials and loop antennae.

CONSRUCTION: Single conductor #23-20/36 stranded bare copper, extra flexible, covered with a dark brown cotton braid overall.

Number	Length	Put-Up	List
1281	25 Ft.	Disc	$0.18
1282	100 Ft.	Spool	.65
1283	500 Ft.	Spool	2.75
1284	1000 Ft.	Spool	5.25

AC-DC RESISTANCE LINE CORDS



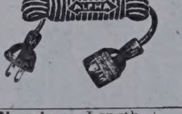
These line cords are built with a third element voltage drop resistor to take care of reducing line voltage and also increase life of coils and condensers as well as eliminate heat generated by the receiver. Equipped with a soft rubber unbreakable attachment plug.

INDIVIDUALLY BOXED
FOR SETS WITH FOLLOWING TUBES

No.	Ohms	For Tubes
1174	135	4-6.3 Volt Tubes, 1-43, 1-25Z5
1175	160	3-6.3 Volt Tubes, 1-43, 1-25Z5
1175B	180	4-6.3 Volt Tubes, 1-43, 1-12Z3 2-6.3 Volt Tubes, 1-43, 1-25Z5
1176	220	3-6.3 Volt Tubes, 1-43, 1-12Z3
1176B	250	2-6.3 Volt Tubes, 1-43, 1-12Z3 3-6.3 Volt Tubes, 1-25Z5
1177	290	3-6.3 Volt Tubes, 1-12Z3
1178	330	4-6.3 Volt Tubes 2-6.3 Volt Tubes, 1-12Z3
1179	360	1-6.3 Volt Tube, 1-12Z3 3-6.3 Volt Tubes

List Price, each.........................$0.60

HEAVY DUTY RUBBER EXTENSION CORD SET



Best for extending power lines of motors, refrigerators, washing machines, electric drills, vacuum cleaners, etc. Construction 18-2 SJ service cord, rubber connector one end, other end rubber plug.

Number	Length		List
4139	9 Ft.	Extension Cord	$0.80
4142	12 Ft.	Extension Cord	.93

E-Z STRIP POWER CORDS

Ideal power supply cord for replacement on radios, lamps, fans, etc. Made of E-Z strip all rubber parallel cord (UNDERWRITERS APPROVAL) with a small unbreakable soft rubber attachment plug. Free end stripped and tinned ready to attach.

INDIVIDUALLY BOXED

No.	Lgth.	List	No.	Lgth.	List	No.	Lgth.	List
2106	6'	$0.23	2109	9'	$0.28	2112	12'	$0.35

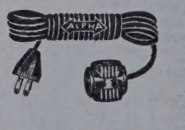
GUY WIRE

GENERAL PURPOSE: Extensively used on transmitter and receiver poles and towers.

CONSTRUCTION: Galvanized steel wire having extremely high tension strength.

Number	Length	List
2195	25 Ft. Coil	$0.25
2196	50 Ft. Coil	.50

CUBE TAP EXTENSION CORD



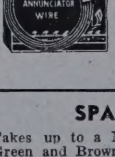
Constructed of ALPHA E-Z Strip rubber cord. A three outlet Bakelite tap is at one end and an unbreakable rubber attachment plug on the other end. (UNDERWRITERS APPROVAL.)

INDIVIDUALLY BOXED

No.	Lgth.	List	No.	Lgth.	List	No.	Lgth.	List
4106	6'	$0.40	4110	10'	$0.48	4115	15'	$0.60
4109	9'	.45	4112	12'	.55	4120	20'	.70

ANNUNCIATOR (BELL) WIRE

Pure copper, two cotton serves reversed and heavy paraffin impregnation are the components used in our wire. Supplied in assorted colors.



Single		
No.		**List**
1970	25 Ft. Carton...	$0.15
1971	¼ Lb. Carton..	.22
1972	½ Lb. Carton..	.40
1974	7 Lb. Spool.....	5.25
Twisted Pair		
1975	7 Lb. Spool.....	5.80

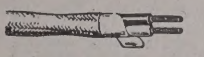
SPAGHETTI TUBING

Takes up to a No. 14 wire. Black, Yellow, Red, Green and Brown.

		List
No. 2091—30" Lengths...............Each		$0,09½

ALPHA - WIRE - PRODUCTS

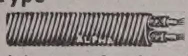
SHIELDED DUPLEX SPEAKER CABLE



GENERAL PURPOSE: For PA systems, photo-electric cell circuits, master control sound systems, etc.
CONSTRUCTION: Two conductors twisted, each #18-16/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, paper wrap over both conductors, close tinned copper shield overall.

No.	Ft. per Spool	Conductors	Maximum Capacity per Ft.		O. D.	List Price
			Cond. to Shield	Bet. Cond.		
1265	500	2	65 mmf.	23 mmf.	.250"	$27.50

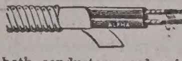
ARMORED DUPLEX SPEAKER CABLE
Varnished Cambric Type



GENERAL PURPOSE: For PA systems, oil burner installations, automotive wiring, etc.
CONSTRUCTION: Two conductors parallel, each #18-16 30 stranded tinned copper, varnished cambric wrapped, color coded waxed cotton braid, galvanized steel armor overall.

Number	Spool	O. D.	List Price
1272	500 Ft.	.132" x .182"	$21.40

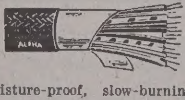
Rubber Insulated Type



GENERAL PURPOSE: Loud speaker wiring in master control sound systems.
CONSTRUCTION: Two conductors parallel, each #18-16/30 stranded tinned copper, color coded cotton serve, 1/64" 40% rubber, paper wrap over both conductors, galvanized steel armor overall.

Number	Spool	O. D.	List Price
1273	500 Ft.	.190" x .245"	$21.40

COMMUNICATION SYSTEM CABLE



GENERAL PURPOSE: For interior use designed for connecting inter-communication systems, annunciators, telephones, etc.
CONSTRUCTION: Each conductor solid tinned copper wire, two cotton reverse serves paraffined, color coded, conductors twisted into pairs, then covered with an impregnated double paper wrap, and overall a cotton braid saturated with a moisture-proof, slow-burning, rodent-proof compound.

Number	Spool	Size	No. of Pairs	O. D.	List
1276	100 Ft.	22	6 (12 Conductors)	.310"	$10.00
1277	100 Ft.	22	10 (20 Conductors)	.375"	16.25

SHIELDED MULTIPLE CONDUCTOR CABLE

GENERAL PURPOSE: For indoor permanent or portable P.A. systems, photo electric cell circuits, sound recording and auto radios.
CONSTRUCTION: Each conductor #20-10/30 stranded tinned copper, 1/64" rubber, color coded cotton braid, conductors twisted, tinned copper shield overall. #1262, #1263, #1264 same specifications except with glazed brown cotton braid over shield.

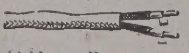
TINNED SHIELD OVERALL

No.	Ft. per Spool	Conductors	Maximum Capacity per Ft.		O. D.	List Price
			Cond. to Shield	Bet. Cond.		
1256	100	2	60.5 mmf.	32 mmf.	.215"	$4.65
1257	100	3	54.0 mmf.	29 mmf.	.240"	5.75
1258	100	4	48.0 mmf.	26 mmf.	.270"	7.15

COTTON BRAID OVER SHIELD

1262	100	2	60.5 mmf.	32 mmf.	.225"	$5.25
1263	100	3	54.0 mmf.	29 mmf.	.245"	8.00
1264	100	4	48.0 mmf.	26 mmf.	.275"	9.40

SHIELDED TRANSMISSION LINE

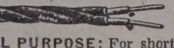


GENERAL PURPOSE: For inter-communication, short wave, PA systems, etc.
CONSTRUCTION: Two conductors twisted, each #19 solid copper, heavy enamel coated, cotton serve, cotton braid waxed, color coded, bare copper shield overall.

No.	Spool	Maximum Capacity Per Foot	Frequency (KC)	Surge Impedance (Ohms)	Power Factor (Percent)	O. D.	List Price
1267	500 Ft.	27.3 mmf.	3,000	69.6	1.41	.145"	$14.40

Surge impedence is one-half the above when using shield as common conductor in dual transmission line.

UNSHIELDED TRANSMISSION LINE

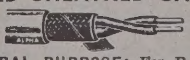


GENERAL PURPOSE: For short wave, inter-communication, annunciator systems, etc. where shielding is not required.

CONSTRUCTION: Two conductors twisted, each #19 solid copper, heavy enamel coated, cotton serve, cotton braid waxed, color coded, conductors twisted.

No.	Spool	O. D.	List
1269	500 Ft.	.135"	$7.50

LEAD SHEATHED CABLE



GENERAL PURPOSE: For PA systems, communication, traffic control, mines, railroads and many other uses where severe moisture conditions are encountered.
CONSTRUCTION: Two conductors twisted, each #19 solid tinned copper, 1/32" "Hi-Tension" rubber, coded, overall is a pure lead sheath.

No.	Length	O. D.	List
1270	100 Ft. Spool	.325"	$11.25
1271	1000 Ft. Reel	.325"	$100.00

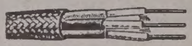
SPEAKER AND BATTERY CABLE

GENERAL PURPOSE: For connecting speakers, analyzers, remote control units, PA systems or wherever a multiple 500 ohm circuit hook-up is required.

CONSTRUCTION: Each conductor #20-10/30 stranded tinned copper, 1/64" rubber, color coded cotton braid, conductors twisted, glazed brown cotton braid overall.

Number	Spool	Conductors	Capacity Between Conductors	O. D.	List Price
1182	100 Ft.	2	31.5 mmf.	.200"	$3.00
1183	100 Ft.	3	31.0 mmf.	.205"	3.50
1184	100 Ft.	4	30.0 mmf.	.260"	5.00
1185	100 Ft.	5	29.5 mmf.	.300"	6.00
1186	100 Ft.	6	29.2 mmf.	.320"	7.25
1187	100 Ft.	7	28.8 mmf.	.340"	8.25
1188	100 Ft.	8	28.5 mmf.	.370"	9.50
1189	100 Ft.	9	27.9 mmf.	.400"	11.50
1190	100 Ft.	10	27.6 mmf.	.410"	13.15
1192	100 Ft.	12	27.0 mmf.	.430"	15.00

INTER-COMMUNICATION CABLE
Braided Type

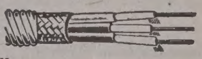


GENERAL PURPOSE: Designed for interior use for connecting inter-communication systems, annunciators, thermostat controls of oil burners, air conditioners, etc.

CONSTRUCTION: Each conductor solid bare copper wire, two cotton reverse serves paraffined, color coded, conductors twisted then an overall cotton braid waxed.

Number	Spool	Size	No. of Conductors	O. D.	List
1274	500 Ft.	18	2	.150"	$10.65
1275	500 Ft.	18	3	.175"	12.50

Armored Type



GENERAL PURPOSE: Same as braided type but armored for heavy duty and grounding.

CONSTRUCTION: Same specifications as braided type except galvanized steel armor overall.

Number	Spool	Size	No. of Conductors	O. D.	List
1278/2	500 Ft.	18	2	.150"	$23.00
1278/3	500 Ft.	18	3	.175"	27.75
1278/4	500 Ft.	18	4	.185"	32.90

CRYSTAL MICROPHONE CABLE

GENERAL PURPOSE: Low loss design for use with crystal, ribbon, dynamic and velocity microphones, photo-electric cells. Use #1248 for lapel microphones and phonograph pick-ups.

CONSTRUCTION: Single conductor, extra flexible stranded tinned copper, cotton serve, insulated with special low loss SIC rubber compound, braided tinned copper shield, cotton serve, tough black rubber jacket overall.

No.	Spool	Size	Strand	Max. Capacity per Ft. Between Cond. and Shield	O. D.	List Price
1248	100 Ft.	20	26/34	45 mmf.	.175"	$4.65
1249	100 Ft.	20	26/34	36 mmf.	.255"	5.65

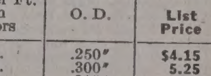
SHIELDED MICROPHONE CABLE

GENERAL PURPOSE: Adaptable for all indoor and outdoor crystal, carbon and condenser microphones as well as public address systems.

CONSTRUCTION: Each conductor #20-26/34 stranded tinned copper, cotton wrap, 1/64" "Hi-Tension" low capacity rubber, color coded, conductors twisted, cushioned with cotton fillers, braided tinned copper shield, cotton wrap, tough black rubber jacket overall.

Number	Spool	Number of Conductors	Max. Capacity per Ft. Between		O. D.	List Price
			Cond. & Shield	Conds.		
1250	100 Ft.	2	70 mmf.	38 mmf.	.270"	$7.15
1251	100 Ft.	3	65 mmf.	38 mmf.	.280"	8.00
1252	100 Ft.	4	65 mmf.	36 mmf.	.300"	9.40
1253	100 Ft.	5	60 mmf.	32 mmf.	.315"	11.75
1254	100 Ft.	6	60 mmf.	30 mmf.	.330"	13.75

UNSHIELDED MICROPHONE CABLE



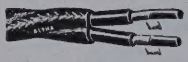
GENERAL PURPOSE: For indoor and outdoor speakers, permanent or portable PA systems, sound recording and auto radios.

CONSTRUCTION: Each conductor #20-26/34 stranded tinned copper, cotton wrap, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cushioned with cotton fillers, cotton wrap, tough black rubber jacket overall.

Number	Spool	Number of Conductors	Capacity per Ft. Between Conductors	O. D.	List Price
1244	100 Ft.	2	22 mmf.	.250"	$4.15
1245	100 Ft.	3	20 mmf.	.300"	5.25
1246	100 Ft.	4	18 mmf.	.315"	6.25
1247	100 Ft.	5	17 mmf.	.330"	8.40

ALPHA - WIRE - PRODUCTS

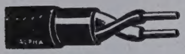
GENUINE EO1 TRANSMISSION CABLE



GENERAL PURPOSE: Standard feeder system for transmitter, frequency modulation, television, short wave, police, aircraft receivers, etc.
CONSTRUCTION: Two conductors #12 solid bare soft annealed copper, paper separator, insulated to .175" low loss moisture resisting rubber compound, twisted, soft cotton braid overall, saturated pitch and mica finish.

No.	Length Feet	Capacity Between Condensers Per Foot	Frequency (K.C.)	Surge Impedance (Ohms)	Power Factor Percent	D. B. Loss Per 100 Feet	List Price
1153	100 Spool	23 mmf.	3,500	72	1	.36	$10.00
1154	250 Reel	23 mmf.	3,500	72	1	.36	23.75
1155	500 Reel	23 mmf.	3,500	72	1	.36	47 50
1156	1000 Reel	23 mmf.	3,500	72	1	.36	95.00

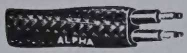
LO-Q CABLE (ULTRA HI-FREQUENCY)



GENERAL PURPOSE: An extremely low loss cable as feeder system for frequency modulation (F.M.) and television.
CONSTRUCTION: 2 conductors #14 solid tinned copper, 1/32" moisture-resisting rubber, both conductors twisted under 3/64" 60% rubber jacket, cotton braid saturated with black flame-resisting finish overall.

No.	Ft. per Spool	Capacity Bet. Conds. Per Foot	Frequency (K.C.)	Surge Impedance (Ohms)	Power Factor	D. B. Loss Per 100 Ft.	Instantaneous Puncture Voltage	Maximum Load Cap. (Watts)	List Price
1152	100	17 mmf.	1,000	100	.03	.04 at 1000 K.C.	35,000 V.	500	$18.25

TRANSMITTING LINE CABLE

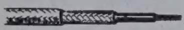


GENERAL PURPOSE: Standard feeder system for transmitter, short wave, etc.

CONSTRUCTION: 2 conductors twisted #12 solid bare copper, paper serve, 3/64" code rubber, overall soft cotton braid, weatherproofed.

No.	Ft. per Spool	Maximum Capacity Per Foot	Frequency (K.C.)	Surge Impedance (Ohms)	Power Factor	D. B. Loss Per 100 Feet	List Price
1157	100	28.5	3,500	72	2.34	.725	$5.65

SHIELDED PRIMARY HOOK-UP WIRE



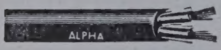
GENERAL PURPOSE: To reduce interference caused by motors, high tension wire, X-Ray machines or other apparatus that radiates electrical impulses.

CONSTRUCTION: Stranded tinned copper, free strip rubber, highly lacquered braid, close tinned copper shield overall.

No.	Ft. per Spool	Size	Strand	Rubber Thickness	O.D.	List Price
1194	100	20	10/30	1/64"	.123"	$2.75
1196	100	18	16/30	1/32"	.157"	3.25
1197	100	16	26/30	1/32"	.172"	3.65

RUBBER SHEATHED SERVICE CORD

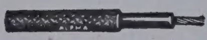
(UNDERWRITERS APPROVED)



GENERAL PURPOSE: For use on vacuum cleaners, electric tools, washing machines, refrigerators, appliances, trouble lights, garage lamps or wherever a rough power line is required.
CONSTRUCTION: Each conductor stranded bare copper, cotton separator, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cushioned with jute fillers, 40% tough rubber jacket overall.

No.	Length Feet	Size	Conductors	Type	Current Carrying Capacity	Voltage Rating	O.D.	List Price
1951	250 Spool	18	2	SV	5 amps	300	.250"	$10.00
1952	250 Spool	18	2	SJ	5 amps	300	.310"	11.90
1953	250 Spool	16	2	SJ	7 amps	300	.340"	15.00
1954	250 Coil	18	2	S	5 amps	600	.390"	22.50
1955	250 Coil	16	2	S	7 amps	600	.410"	26.50
1956	250 Coil	14	2	S	15 amps	600	.540"	51.00

FILAMENT AND HOOK-UP WIRE

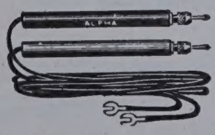


GENERAL PURPOSE: Point to point wiring for all radio and electrical uses.

CONSTRUCTION: Single conductor #14-41/30 stranded tinned copper, served, rubber insulation and braid overall, wax impregnated.

No.	Length—Feet	Voltage Breakdown (60 Cycles)	D.C. Resistance Per Foot (Megohms)	O.D.	List Price
1641	25 Spool	2150	14.8	.130"	$0.60
1645	500 Spool	2150	14.8	.130"	10.65

SUPER "HI-TENSION" TEST LEADS



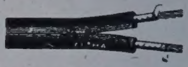
Can readily be connected for testing circuit defects and all devices such as meters, batteries, transformers, etc. An insulation of Alpha "Super Hi-Tension" heavy rubber is over an extremely flexible tinned copper wire (Alpha #1635 Test Prod Wire). Constructed to withstand rough usage and repeated bendings. Handles are of sturdy fibre. Overall length 50". Red and Black leads for easy identification.

INDIVIDUALLY BOXED

No.		List Price
2171	— Needle Point Prods with Spade Terminals	$0.60
2172	— Needle Point Prods with Phone Tip Terminals	.60
2173	— Needle Point Prods with Alligator Clips	.75
2175	— Solderless Prods with Spade Terminals	.60
2176	— Solderless Prods with Phone Tip Terminals	.60
2177	— Solderless Prods with Alligator Clips	.75

TYPE POSJ
E-Z STRIP LAMP CORD

(UNDERWRITERS APPROVED)

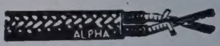


GENERAL PURPOSE: For line cord on radios, lamps, electric clocks, food mixers and other small devices.

CONSTRUCTION: Two conductors parallel, each conductor #18-42/34 extra flexible bare copper, color coded cotton serve, 40% tough rubber jacket overall. Slit in jacket to permit "E-Z" separation.

No.	Spool	O.D.	List
1966	100 Ft.	.235" x .130"	$2.50
1967	250 Ft.	.235" x .130"	5.00

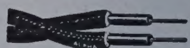
FLEXIBLE LAMP CORD AND FIXTURE WIRE



For use on lamps, radio AC or DC lines, ground, aerial connections, etc.

No.	Ft. per Spool	Size	Type	List
1930	1000	18 1/64"	Single Conductor	$8.25
1931	500	18 1/64"	Single Conductor	4.25
1935	500	18 1/64"	Twisted Pair	9.40
1937	250	18 1/32"	Twisted Pair (Approved)	6.50
1940	1000	20 1/64"	Single Conductor	7.75
1941	500	20 1/64"	Single Conductor	4.00

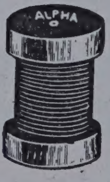
TELEPHONE WIRE—INSIDE



GENERAL PURPOSE: For interior use in dry locations. Designed for connecting inter-communication systems, annunciators, interior telephones, etc. Also used for ground and aerial connections.

CONSTRUCTION: Each conductor solid tinned copper, 1/64" telephone compound rubber, hard glazed cotton braid color coded, conductors twisted.

No.	Coil	Size	Conductors	O.D.	List
1279	500 Ft.	19	2	.250"	$15.00
1280	500 Ft.	19	3	.375"	$22.50



DIAL CABLE

Phosphor Bronze

CONSTRUCTION: Made of 42 strands genuine phosphor bronze wire with a linen center for extra flexibility. Is guaranteed not to warp or stretch.

No.	Ft. per Spool	Tensile Strength	List Price
1689	25	50 lbs.	$1.05
1690	50	50 lbs.	2.05
1691	100	50 lbs.	3.65
1692	500	50 lbs.	16.90

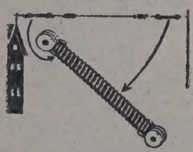
Braided Linen

CONSTRUCTION: Made of the finest linen obtainable. Composed of a very strong linen center over which is a black braid.

No.	Ft. per Spool	Tensile Strength	List Price
	Heavy		
1694	25	40 lbs.	$1.40
1695	100	40 lbs.	4.75
1696	500	40 lbs.	19.50
	Light		
1697	25	22.5 lbs.	1.25
1698	100	22.5 lbs.	4.40
1699	500	22.5 lbs.	16.90
	Extra Thin		
1700	25	18 lbs.	.70

ALPHA - WIRE - PRODUCTS

SPRING AERIAL ADJUSTER

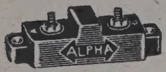


Prevents sagging and swaying. Powerful springs, cadmium plated and corrosion proof.

List Price

No. 1285 Individually Boxed..$0.45

RADIO LIGHTNING ARRESTER



Made of high quality glazed porcelain with nickeled screws and nuts. For indoor or outdoor use. Furnished with two wood screws.

List Price

No. 2001 Individually Boxed....$0.19

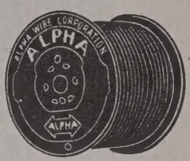
DOUBLET LIGHTNING ARRESTER

Made of high quality glazed porcelain with nickeled screws and nuts. For complete protection on doublet antenna systems. For indoor or outdoor use. Furnished with two wood screws.

List Price

No. 2000 Individually Boxed $0.30

LEAD-IN AND GROUND WIRE



GENERAL PURPOSE: Lead-in, ground, hook-up, all purpose wire. **CONSTRUCTION:** Stranded tinned or solid tinned copper conductor, insulated with live free stripping rubber, jet black waxed finish overall.

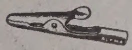
No.	Length Feet	Put-Up	Size	Tinned Strand	Rubber Thickness	O. D.	List Price
1114	1000	Spool	20	10/30	1/32″	.105″	$5.25
1114E	500	Spool	20	10/30	1/32″	.105″	2.75
1115	500	Spool	14	41/30	3/64″	.175″	7.00
1117	100	Spool	14	41/30	3/64″	.175″	1.50
1118	50	Carton	14	41/30	3/64″	.175″	.75
1121	500	Spool	16	26/30	1/32″	.130″	4.75
1124	100	Spool	16	26/30	1/32″	.130″	1.05
1125	50	Carton	16	26/30	1/32″	.130″	.60
1130	100	Spool	18	16/30	1/32″	.125″	.80
1131	500	Spool	18	16/30	1/32″	.125″	3.70
1132	50	Carton	18	16/30	1/32″	.125″	.40
1133	25	Carton	18	16/30	1/32″	.125″	.24
1134	1000	Spool	18	16/30	1/64″	.110″	6.50
1101	500	Spool	16	Solid	3/64″	.135″	4.25
1105	50	Carton	16	Solid	3/64″	.135″	.45
1111	500	Spool	18	Solid	3/64″	.133″	3.50
1112	50	Carton	18	Solid	3/64″	.133″	.40
1113	1000	Spool	20	Solid	3/64″	.130″	5.50

BATTERY AND TEST CLIPS

For protection against rust and corrosion, these clips are completely cadmium plated. Strong spring jaw for permanent contact.

No.	Type	Amps.	Per Box	List Price
2071	Midget	5	50	$6.25
2072	Pee-Wee	10	50	6.25
2073	Medium	25	50	9.00
2074	Large	50	30	15.00

ALLIGATOR CLIP



These clips are nickel plated as protection against rust and corrosion. Strong spring jaw for firm contact.

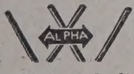
Number	Per Box	List Price
2075	50	$6.25

UNBREAKABLE
SOFT RUBBER PLUG

Made of sturdy live soft rubber. Brass blades. Unbreakable, easy to attach.

No.	Per Carton	List Price
1964	100	$8.00

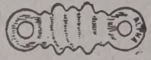
BUS-BAR WIRE



This copper wire is tinned and receives several wipings to insure cleanliness and brightness. Is cut in uniform 2 ft. lengths.

Number	Size	List Price
2078	10 Round	$5.00
2080	12 Round	3.40
2081	14 Square	2.90
2082	14 Round	2.50

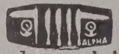
GLASS INSULATORS



Crystal clear, of great tensile strength, moistureproof, waterproof and weatherproof.

Number	Length	Per Carton	List Price
2020	3″	100	$5.00
2021	3⅝″	100	7.50

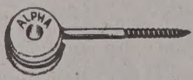
PORCELAIN INSULATOR



Made of glazed porcelain. Will withstand great strain.

Number	Per Carton	List Price
2022	100	$3.75

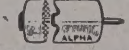
SCREW EYES



A cadmium plated sharply pointed #6 gauge screw with glazed porcelain eye.

Number	Length	Per Carton	List Price
2052	3″	100	$4.15
2056	7″	100	5.00
2058	12″	100	17.50

NAIL KNOB



A 2-piece knob of glazed porcelain and a heavy nail for secure holding.

Number	Per Carton	List Price
2031	100	$3.50

STAPLES

Made of coppered steel with sharply pointed tips for easy tacking. Properly insulated. Furnished in standard construction and also in brown, white and buff.

No.		Per Box	List Price
2041	Standard Type	50	$0.12
2043	Colors	40	.12

LEAD-IN STRIP—CLIP TYPE

(SOLDERED)

Weatherproofed and fully covered with a heavily lacquered braid. Fahnestock clips riveted and soldered to strap for firm contact.

Number	Length	Per Carton	List Price
2002	12″	50	$6.00

(UNSOLDERED)

Constructed exactly like our No. 2002 but the clips are unsoldered.

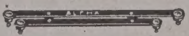
Number	Length	Per Carton	List Price
2003	12″	250	$5.00

LEAD-IN STRIP—SCREW TYPE

A heavily lacquered braid makes this strip weatherproof. The screws, nuts and washers are nickeled brass. Makes positive contact.

Number	Length	Per Carton	List Price
2005	12″	50	$8.75

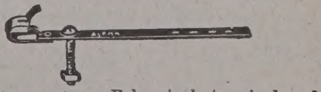
LEAD-IN STRIP—DOUBLET TYPE



Same construction as No. 2005 but 2 strips laid parallel and staggered to prevent contact, held apart by riveted fibre pieces. Especially adaptable to doublet antennas.

Number	Length	Per Carton	List Price
2004	12″	50	$18.75

GROUND CLAMP



Heavy gauge strap, Fahnestock terminal and brass screw and nut. Makes a quick and positive connection. Fits ⅜″ to 2″ pipe.

Number		Per Carton	List Price
2012	Strap Type	50	$5.00

PIPE CLAMP

Cadmium plated. Is of neat appearance. Attaches the ground wire to the pipe easily and securely. Will last indefinitely.

No.		Per Carton	List Price
2011	"C" Type	50	$5.25

ALPHA - WIRE - PRODUCTS

AERIAL KITS

COMPLETE AERIAL KIT
ALPHA

Alpha Aerial Kits are designed to meet the requirements of the various types of radio installations. Each kit is complete and boxed attractively.

No. 300

35 Ft. 7 Strand Copper Aerial Wire
20 Ft. R. C. Lead-In Wire
2 #2022 Porcelain Insulators
2 #2031 Porcelain Nail Knobs
1 #2012 Copper Ground Clamp
1 #2002 Weatherproof Lead-In Strip
List Price, Complete Kit.....**$0.58**

No. 301

50 Ft. 7 Strand Copper Aerial Wire
25 Ft. R.C. Lead-In Wire
2 #2022 Porcelain Insulators
2 #2031 Porcelain Nail Knobs
1 #2012 Copper Ground Clamp
1 #2002 Weatherproof Lead-In Strip
List Price, Complete Kit.....**$0.65**

No. 307

75 Ft. 7/23 Copper Aerial Wire
35 Ft. #16 Solid R.C. Lead-In Wire
15 Ft. Indoor Wire
2 #2021 Glass Insulators
1 #2001 Lightning Arrester
1 #2002 Weatherproof Lead-In Strip
1 #2012 Copper Ground Clamp
6 #2041 Insulated Staples
2 #2031 Porcelain Nail Knobs
2 Galvanized Screw Eyes
2 Wood Screws
List Price, Complete Kit.....**$1.45**

No. 314

100 Ft. 7/22 Copper Aerial Wire
50 Ft. #16 Stranded R.C. Lead-In Wire
25 Ft. Indoor Wire
1 #2001 Lightning Arrester
2 #2021 Glass Insulators
1 #2005 Screw Type Lead-In Strip
1 #2011 "C" Type Ground Clamp
2 #2052 Porcelain Screw Eyes
2 #2031 Porcelain Nail Knobs
6 #2041 Insulated Staples
2 Wood Screws
List Price, Complete Kit.....**$2.25**

No. 304

75 Ft. 7/24 Copper Aerial Wire
25 Ft. R.C. Lead-In Wire
1 #2001 Lightning Arrester
1 #2002 Weatherproof Lead-In Strip
2 #2031 Porcelain Nail Knobs
1 #2012 Copper Ground Clamp
2 #2020 Glass Insulators
2 Galvanized Screw Eyes
2 Wood Screws
List Price, Complete Kit.....**$1.10**

No. 303

75 Ft. 7/27 Copper Aerial Wire
25 Ft. R.C. Lead-In Wire
1 #2012 Copper Ground Clamp
2 #2022 Porcelain Insulators
2 #2031 Porcelain Nail Knobs
1 #2002 Weatherproof Lead-In Strip
2 Galvanized Screw Eyes
List Price, Complete Kit.....**$0.75**

No. 310

75 Ft. 7/22 Copper Aerial Wire
35 Ft. #16 Stranded R.C. Lead-In Wire
25 Ft. Indoor Wire
1 #2011 "C" Type Ground Clamp
1 #2001 Lightning Arrester
2 #2021 Glass Insulators
1 #2005 Screw Type Lead-In Strip
2 #2031 Porcelain Nail Knobs
2 #2052 Porcelain Screw Eyes
6 #2041 Insulated Staples
2 Wood Screws
List Price, Complete Kit.....**$1.80**

AERIAL WIRE

ALPHA
ANTENNA
RADIO WIRE
AL
RATION

All Alpha Aerial Wire is properly annealed to assure required flexibility and tensile strength.

STRANDED—BOXED

No.				List
1015	7/22	Tinned	100 Ft.	$0.88
1019	7/22	Tinned	75 Ft.	.68
1020	7/20	Bare	100 Ft.	1.28
1025	7/22	Bare	100 Ft.	.80
1029	7/22	Bare	75 Ft.	.63
1035	7/23	Bare	100 Ft.	.65
1039	7/23	Bare	75 Ft.	.50

SOLID—BOXED

1040	10	Enamel	100 Ft.	$1.85
1045	12	Enamel	100 Ft.	1.18
1055	14	Enamel	100 Ft.	.80
1060	10	Tinned	100 Ft.	2.05
1064	10	Tinned	25 Ft.	.55
1065	12	Tinned	100 Ft.	1.13
1069	12	Tinned	25 Ft.	.33
1070	14	Tinned	100 Ft.	.80
1074	14	Tinned	25 Ft.	.25
1075	16	Tinned	100 Ft.	.58
1079	16	Tinned	25 Ft.	.18

STRANDED—BARE

No.			List
101	7/20	100 Ft. Coil	$1.25
104	7/20	75 Ft. Coil	.95
105	7/20	50 Ft. Coil	.64
106	7/20	1000 Ft. Spool	12.25
107	7/22	100 Ft. Coil	.75
110	7/22	75 Ft. Coil	.58
111	7/22	50 Ft. Coil	.40
112	7/22	1000 Ft. Spool	7.50
119	7/23	100 Ft. Coil	.62
122	7/23	75 Ft. Coil	.47
123	7/23	50 Ft. Coil	.33
124	7/23	1000 Ft. Spool	6.15
131	7/24	100 Ft. Coil	.50
134	7/24	75 Ft. Coil	.39
135	7/24	50 Ft. Coil	.27
136	7/24	1000 Ft. Spool	5.00
143	7/25	100 Ft. Coil	.43
146	7/25	75 Ft. Coil	.33
147	7/25	50 Ft. Coil	.23
148	7/25	1000 Ft. Spool	4.25
149	7/26	100 Ft. Coil	.37
152	7/26	75 Ft. Coil	.29
153	7/26	50 Ft. Coil	.20
154	7/26	1000 Ft. Spool	3.65
155	7/27	100 Ft. Coil	.31
158	7/27	75 Ft. Coil	.24
159	7/27	50 Ft. Coil	.17
160	7/27	1000 Ft. Spool	3.10

STRANDED—TINNED

161	7/22	100 Ft. Coil	$0.84
164	7/22	75 Ft. Coil	.64
165	7/22	50 Ft. Coil	.44
166	7/22	1000 Ft. Spool	8.40

STRANDED—TINNED

No.			List
173	7/23	100 Ft. Coil	.69
176	7/23	75 Ft. Coil	.53
177	7/23	50 Ft. Coil	.37
178	7/23	1000 Ft. Spool	6.90
185	7/24	100 Ft. Coil	.58
188	7/24	75 Ft. Coil	.44
189	7/24	50 Ft. Coil	.32
190	7/24	1000 Ft. Spool	5.75

SOLID—ENAMEL

269	14	100 Ft. Coil	$0.75
272	14	75 Ft. Coil	.58
273	14	50 Ft. Coil	.40
274	14	1000 Ft. Spool	7.50
275	12	100 Ft. Coil	1.15
278	12	75 Ft. Coil	.88
279	12	50 Ft. Coil	.60
280	12	1000 Ft. Spool	11.40
281	10	100 Ft. Coil	1.80
282	10	50 Ft. Coil	.94
283	10	1000 Ft. Spool	18.00

SOLID—TINNED

284	14	100 Ft. Coil	.75
285	14	50 Ft. Coil	.40
286	14	1000 Ft. Spool	7.50
287	12	100 Ft. Coil	1.08
288	12	50 Ft. Coil	.58
289	12	1000 Ft. Spool	10.75
290	10	100 Ft. Coil	2.00
291	10	50 Ft. Coil	1.07
292	10	1000 Ft. Spool	20.00

DOUBLET AERIAL KITS

Soldered For Immediate Installation

KIT No. 25

1—All Wave Antenna Coupler
2—30 Ft. Coils Stranded Tinned Aerial Wire
1—50 Ft. Coil Transmission Cable #1149
3—Glass Insulators #2020
2—Glazed Porcelain Nail Knobs #2031
1—"C" Type Pipe Clamp #2011
2—Weatherproofed Lead-In Strips #2002
1—7" Porcelain Screw Eye #2056
1—Instruction Sheet.
List Price, Complete Kit..................**$2.65**

KIT No. 24

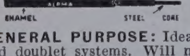
Same as Kit No. 25 Except without All Wave Antenna Coupler.
List Price, Complete Kit..................**$1.75**

KIT No. 31

1—All Wave Antenna Coupler
2—46 Ft. Coils Stranded Aerial Wire
1—75 Ft. Coil Transmission Cable #1146
1—Triangular Antenna Block
1—Double Screw Type Lead-In Strip #2004
4—Glass Insulators #2020
1—25 Ft. Coil Heavy Flexible R.C. Wire
2—7" Porcelain Screw Eyes #2056
2—Glazed Porcelain Nail Knobs #2031
1—"C" Type Pipe Clamp #2011
6—Insulated Staples #2041
1—Instruction Sheet.
List Price, Complete Kit. **$3.90**

KIT No. 30

Same as Kit No. 31 except without All Wave Antenna Coupler.
List Price, Complete Kit... ....**$3.00**

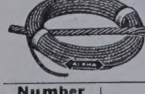


COPPERWELD ENAMEL AERIAL WIRE

GENERAL PURPOSE: Ideal for short wave and marine antennas, directional and doublet systems. Will not sag or stretch.

CONSTRUCTION: A solid steel core, heavily covered with pure electrolytic copper over which is baked black insulating enamel.

Number	Size	Carton	Tensile Strength	O. D.	List Price
1158	10	100 Ft.	1050 Lbs.	.103"	$2.50
1159	12	100 Ft.	670 Lbs.	.083"	1.65
1160	14	100 Ft.	420 Lbs.	.066"	1.15

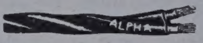


PHOSPHOR BRONZE AERIAL WIRE

GENERAL PURPOSE: Recommended especially for ship, short wave, and transmitting aerials where high tensile strength is required.

CONSTRUCTION: 7 strands #18 Phosphor Bronze.

Number	Length	Tensile Strength	O. D.	List Price
1162	100 Ft. Carton	1000 Lbs.	.122"	$4.40
1163	500 Ft. Spool	1000 Lbs.	.122"	22.00



DOUBLET TRANSMISSION LINE

GENERAL PURPOSE: Doublet style twisted lead-in designed for low loss coupling between antenna and receiver.

CONSTRUCTION—Braided Type: Two conductors #22-7/30 stranded tinned copper, 1/32" "Hi-Tension" Rubber, color coded, conductors twisted, cotton braid overall, saturated weather-proof finish.

No.	Length Feet	Capacity Bet. Conds. Per Foot	Frequency (KC)	Surge Impedance (Ohms)	Power Factor Percent	List Price
1146	500 Spool	21.8 mmf.	3,500	90.2	3.75	$8.00
1148	100 Coil	21.8 mmf.	3,500	90.2	3.75	1.60
1149	50 Coil	21.8 mmf.	3,500	90.2	3.75	.80

CONSTRUCTION—All Rubber Type: Two conductors #22-7/30 stranded tinned copper, 1/32" "Hi-Tension" Rubber, color coded, conductors twisted, rubber jacket overall, black satin finish.

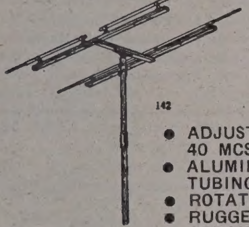
1135	500 Spool	21.8 mmf.	3,500	90.2	3.75	$12.50
1137	100 Coil	21.8 mmf.	3,500	90.2	3.75	2.50
1138	50 Coil	21.8 mmf.	3,500	90.2	3.75	1.25

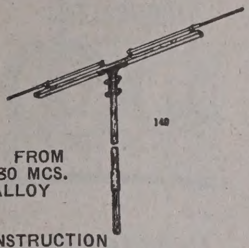
Birnbach

F-N and TELEVISION ANTENNAS

BIRNBACH

F-M and TELEVISION DOUBLET ANTENNAS


142

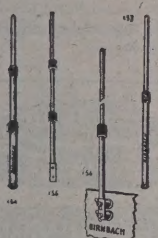

140

- ADJUSTABLE FROM 40 MCS. TO 80 MCS.
- ALUMINUM ALLOY TUBING
- ROTATABLE
- RUGGED CONSTRUCTION
- CERAMIC INSULATORS

A superior antenna construction for television reception. Consist of corrosion proof aluminum alloy tubes adjustable to all frequencies between 80 mcs. and 40 mcs. mounted on high grade low absorption glazed porcelain standoff insulators which maintains its efficiency under all weather conditions. Strong wooden supports. Adjustments can be made in the horizontal planes. This will permit the antenna to be properly adjusted in respect to the transmitted wave and the signal strength. There are two types available: No. 140 Doublet and the No. 142 Doublet with reflector to eliminate interference. Complete with mounting poles and steel coupling.

No.	List Price
140—Doublet	$12.50
142—Doublet with reflector	22.50

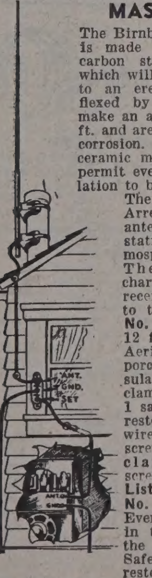
ULTRA HIGH FREQUENCY ANTENNAS
(VERTICAL RODS)



They are constructed of hard drawn aluminum alloy tubing, telescoped together and adjusted by forcing down with a turning motion a specially designed brass nickel-plated taper lock bushing. They cover all requirements for stationary or portable use. Two types of mountings are available: stand-off mounting having ¼ - 20 threaded bushing on No. 154 and 10-32 threaded bushing on No. 157, and binding post mounting consisting of a reinforced flattened end with two holes drilled 1″ between centers. The frequency range listed is for ¼ wavelength antenna.

No.	Sections	Frequency Range in Mcs. Open	Telescoped	List Price
154	3	55	145	$3.30
155	3	55	145	3.30
156	2	112	200	2.00
157	2	112	200	2.00
161	2	40	75	2.20
164	Taper Lock Bushings $\frac{5}{16}$ and ⅜			.15

MAST AERIAL

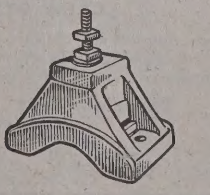


The Birnbach Mast Antenna is made of four tempered carbon steel tube sections which will instantly go back to an erect position when flexed by the wind. They make an actual height of 12 ft. and are treated to prevent corrosion. Two heavy duty ceramic mounting insulators permit every type of installation to be made with ease. The Safety Lightning Arrester protects the antenna from excessive static charges of atmospheric electricity. The accumulated charges bypasses the receiver and discharges to the ground.

No. 169—Includes: 1 12 ft. 4 section Mast Aerial and Clamps, 2 porcelain mounting insulators and securing clamps; 4 nailit knobs; 1 safety lightning arrester; 35 ft. leadin wire; 1—6″ insulated screw eye; 1 ground clamp; mounting screws; and directions. **List** $5.00

No. 170 — Includes: Everything contained in the No. 169 with the exception of 1 Safety lightning arrester. **List** ... $4.75

BASE INSULATOR

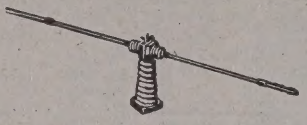


Ideal for replacement and well suited as a base insulator for ultra high frequency antennas as it permits a connection to be at the bottom of the insulator. Made of highly vitrified low absorption glazed porcelain.

No. 146—Base Insulator, Std. Pkg. 10..................List, $0.60

SEE PAGE O-10
for complete line of
TRANSMISSION
CABLE
suitable for
FM and
TELEVISION

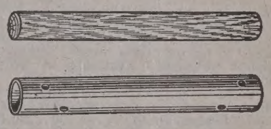
ADJUSTABLE DIPOLE ANTENNA
For Television or Frequency Modulation



An adjustable antenna that can be used as a vertical or horizontal doublet. Can be rotated to any angle for any degree of polarization. Impedance at center 72 ohms, matched by EO1 Cable. Aluminum alloy tubing permits outdoor mountings. Special tapered lock bushings hold each section in place simply by turning and pushing down. The center mounting insulator is 4½″ high.

No.	Frequency Range in Mcs. Open	Telescoped	List Price
158	82	155	$5.50
160	40	75	6.60

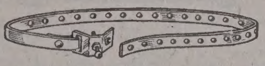
Wooden Mounting Poles



Made of straight grain ash and finished with a weatherproof varnish. With the use of the couplings, several poles can be joined together. The couplings are made of steel tubing and are cadmium plated.

No.	Std. Pkg.	List
144—Coupling	10	$1.00
145—4 ft. Wooden pole	10	1.00

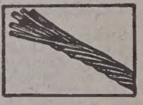
MOUNTING STRAP



A very useful aid in securing poles of Television or mast antennas to vent pipes. It is made of cadmium plated steel and is 24″ long.

No. 626—Mounting Strap............Std. Pkg. 25............. $0.30 List

GUY WIRE

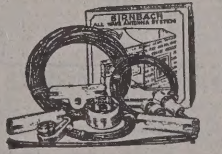


Constructed of high tensile strength galvanized steel wires. Ideal for guying up transmitter and receiver towers and poles.

No. 19—Guy Wire, 25 ft. Coil.......each $0.30 List

No. 20—Guy Wire, 50 ft. Coil.......each .60 List

No. 150 ALL WAVE ANTENNA



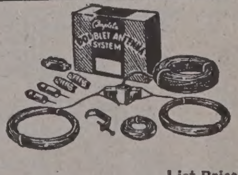
An efficient and low cost all wave antenna with noise reducing features. It will give efficient reception on both broadcast and short waves on every type of receiver. It has the newly designed all ceramic transfer unit. With this unit the antenna wire and the transmission line are firmly and securely anchored. There are no wire leads from the transfer unit to collect ice in the winter and to deteriorate in the summer. Comes complete with everything necessary for installation.

LIST OF PARTS

2—30 ft. coils 7/24 Bare Aerial Wire
1—50 ft. coil Stranded Transmission Cable
1—All Wave Coupler
1—Transfer Unit
2—Porcelain Insulators
2—All Wave Lead-in Strips
1—Ground Clamp
2—Glazed Nailit Knobs
Complete Instructions

No.	List Price
150—Birnbach All Wave Antenna	$4.00
152—Special All Wave Antenna	3.00

No. 148
UNIVERSAL WAVE ANTENNA
(FOR EVERY TYPE OF RECEIVER)

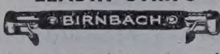


The No. 148 All Wave Antenna is the same as the No. 150, but is packed in a special attractive two color box imprinted to customer's specifications. This kit is designed for efficient operation with all types of receivers. Standard cartons of 20 kits.

No.		List Price
148—All Wave Kit with Receiver Coupler	each	$4.00
149—All Wave Kit without Receiver Coupler	each	3.50

BIRNBACH Birnbach AERIAL ACCESSORIES

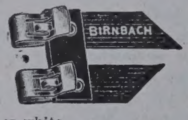
LEADIN STRIPS



Covered with a heavy cotton braid, weather-proofed, with numerous coats of lacquer. The Clips are riveted and soldered at both ends

No.	Lgth.	Std. Pkg.	List Price Each
611—Black	12″	50	$0.07½
612—Black	16″	25	.15
613—White	12″	50	.08

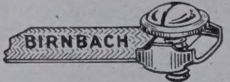
DOUBLET LEADIN STRIPS



Two strips held parallel to each other by a piece of bakelite prevents them from moving back and forth. Available in black or white.

No. 2611—Std. pkg. 25. Ea. $0.17 List

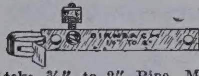
Screw Terminal Leadin Strip



Locks the wire together with the strip in a secure connection assuring perfect contact. Has weather-proof covering over a copper strip with cadmium plated terminals. Available in white or black.

No.	Std. Pkg.	List Price Each
617—Leadin Strip	50	$0.11
2617—Doublet Leadin Strip	25	.25

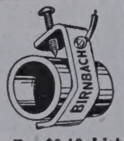
COPPER STRAP CLAMP



Will take ⅜″ to 2″ Pipe. Made of copper with Birnbach clip riveted and soldered to strap. oCmplete with nut and bolt.

No. 600—Std. pkg. 50. Ea. $0.07 List

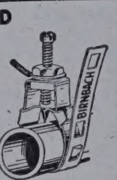
C-CLAMP



Attaches easily to a water or radiator pipe. The cone-pointed screw cuts through and makes positive contact. Cadmium finish prevents rusting.

No. 615—Std. pkg. 25. Ea. $0.10 List

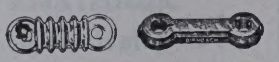
SADDLE GROUND CLAMPS



These ground clamps have a hard pointed screw which digs through rust and makes a positive contact. Fits a ⅜″ to 2″ pipe.

No.	Std. Pkg.	List Price Each
625—Heavy Saddle Clamp	50	$0.12
630—Light Saddle Clamp	50	.08

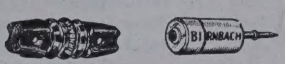
GLASS INSULATORS



Made of crystal clear glass and have a smooth surface which prevents dirt or ice to collect.

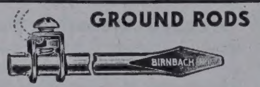
No.		Std. Pkge.	List Price
00—3″		100	C $5.50
660—3⅜″		100	C 8.25
661—3¾″	Flat Type	100	C 8.80
662—3⅜″		100	C 9.50
659—4½″		100	C 14.30

PORCELAIN INSULATORS AND NAIL-IT KNOBS



No.	Porcelain Insulators	Std. Pkge.	List Price
666	Brown or White	100	C $4.40
669	Glazed Nail-It Knobs	100	C 3.85

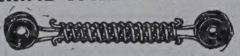
GROUND RODS



The Ground Rod when driven into the ground will afford a highly efficient ground.

No.	Std. Pkge.	List Price
616—4 Ft.	12	ea. $0.85
818—6 Ft.	12	ea. 1.25

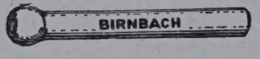
AERIAL SPRING ADJUSTER



Prevents swinging and swaying of antennas and eliminates the resultant fading of signals. Consists of two hooks with porcelain rings interconnecting with a powerful compression spring. Cadmium plated throughout.

No.	List Price
765—Birnbach Aerial Spring Adjuster	each $0.55

PORCELAIN TUBES



To bring a leadin into a building, we advise our Porcelain Tubes, which require a ¾″ dia. hole.

No.	Std. Pkge.	List Price
42—2″	100	C $3.25
43—3″	100	C 4.00
44—4″	100	C 5.25
46—6″	100	C 7.00
48—8″	100	C 10.00

PHOSPHOR BRONZE

It has about twice the strength of copper. It is used extensively on Master Antenna Systems where strength and reliability are demanded.

Special Lengths Available on Order

No.	Ft.	Size	List Price
499	100	7/18	$6.00
524	100	7/20	3.50
526	100	7/22	3.25

SOLID TINNED WIRE

SOFT DRAWN

No. 10

No.			List Price
1400—	25 ft.	coil	$0.72
1401—	50 ft.	coil	1.40
1402—	100 ft.	coil	2.70
1403—	1000 ft.	spool	27.00

No. 12

No.			List Price
1404—	25 ft.	coil	.45
1405—	50 ft.	coil	.80
1406—	100 ft.	coil	1.50
1407—	1000 ft.	spool	15.00

No. 14

No.			List Price
1408—	25 ft.	coil	.33
1409—	50 ft.	coil	.55
1410—	100 ft.	coil	1.00
1411—	1000 ft.	spool	10.00

No. 16

No.			List Price
1412—	25 ft.	coil	.28
1413—	50 ft.	coil	.45
1414—	100 ft.	coil	.77
1415—	1000 ft.	spool	7.70

No. 18

No.			List Price
1416—	25 ft.	coil	$0.22
1417—	50 ft.	coil	.40
1418—	100 ft.	coil	.72
1419—	1000 ft.	spool	7.20

No. 20

No.			List Price
1410—	25 ft.	coil	.20
1421—	50 ft.	coil	.33
1422—	100 ft.	coil	.66
1423—	1000 ft.	spool	6.60

No. 22

No.		List Price
1424—	¼ lb. spool	.50
1425—	½ lb. spool	.90
1426—	1 lb. spool	1.50

No. 24

No.		List Price
1427—	¼ lb. spool	.55
1428—	½ lb. spool	1.00
1429—	1 lb. spool	1.75

No. 26

No.		List Price
1430—	¼ lb. spool	.60
1431—	½ lb. spool	1.10
1432—	1 lb. spool	2.00

SOLID ENAMEL WIRE

No. 10

No.			List Price
597—	25 ft.	coil	$0.65
697—	50 ft.	coil	1.30
497—	100 ft.	coil	2.50
1497—	1000 ft.	spool	24.50

No. 12

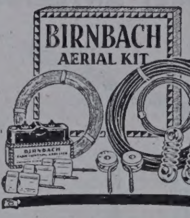
No.			List Price
192—	25 ft.	coil	.45
292—	50 ft.	coil	.85
492—	100 ft.	coil	1.60
492A—	150 ft.	coil	2.40
492B—	200 ft.	coil	3.20
1492—	1000 ft.	spool	16.00

No. 14

No.			List Price
190—	25 ft.	coil	.30
290—	50 ft.	coil	.60
490—	100 ft.	coil	1.10
490A—	150 ft.	coil	1.65
490B—	200 ft.	coil	2.20
1490—	1000 ft.	spool	10.75

No. 15

No.			List Price
498—	100 ft.	coil	.85



ANTENNA KITS

No. 556—Aerial Kit....Each $0.75
35 ft. 7-Strand Copper Wire
20 ft. R.C. Lead-in Wire
2—No. 666 Porcelain Insulators
2—No. 669 Glazed Nailit Knobs
1—No. 600 Ground Clamp
1—No. 611 Lead-in Strip
Std. Pkg. 24 Weight 36 lbs.

No. 555—Aerial Kit....Each $0.85
50 ft. 7-Strand Copper Wire
25 ft. R.C. Lead-in Wire
2—No. 666 Porcelain Insulators
2—No. 669 Glazed Nailit Knobs
1—No. 600 Ground Clamp
1—No. 611 Lead-in Strip
Std. Pkg. 24 Weight 38 lbs.

No. 505—Aerial Kit....Each $1.10
75 ft. 7-Strand Copper Wire
25 ft. R.C. Lead-in Wire
1—No. 65 Lightning Arrester
2—No. 666 Porcelain Insulators
2—No. 669 Glazed Nailit Knobs
1—No. 600 Ground Clamp
1—No. 611 Lead-in Strip
Std. Pkg. 24 Weight 48 lbs.

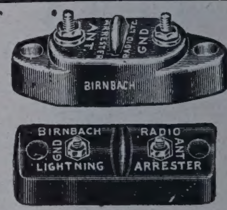
No. 500—Aerial Kit....Each $1.35
75 ft. 7/26 Copper Wire
25 ft. R.C. Lead-in Wire
1—650 Lightning Arrester
1—No. 611 Lead-in Strip
1—No. 600 Ground Clamp
2—No. 666 Porcelain Insulators
2—No. 669 Glazed Nailit Knobs
2—No. 665 Galvanized Screw Eyes
Std. Pkg. 24 Weight 50 lbs.

No. 501—Aerial Kit....Each $2.00
75 ft. 7/24 Copper Wire
40 ft. R.C. Lead-in Wire
15 ft. Flexible R.C. Wire
1—No. 611 Lead-in Strip
1—No. 650 Lightning Arrester
1—No. 630 Ground Clamp
2—No. 666 Porcelain Insulators
2—No. 669 Glazed Nailit Knobs
2—No. 665 Galvanized Screw Eyes
6 Insulated Staples
Std. Pkg. 24 Weight 64 lbs.

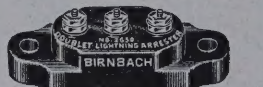
LIGHTNING ARRESTERS

Made of a brown glazed porcelain body with nickel-plated hardware. Suitable for outdoor or indoor use. Complete with mounting screws and instructions.

No.	Std. Pkg.	List Price Each
650—Lightning Arrester	50	$0.30
65—Lightning Arrester	100	.18



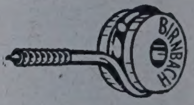
DOUBLET LIGHTNING ARRESTERS



This Arrester is of the air gap type which is the accepted means of protecting doublet antennas from lightning. Installation instructions are printed on the box.

No. 2650—Doublet Lightning Arrester
Std. Pkg. 25............... **List $0.35**

SCREW EYES



Heavy rustproof cadmium plated steel screws hold the blue glaze porcelain eyes firmly. The bakelite insulated eye is specially molded for outdoor use.

Porcelain Eyes

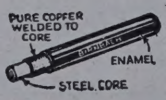
No.	Std. Pkg.	List Price Per 100
666— 3 in.	100	$5.50
664— 7 in.	50	6.50
667—12 in.	25	21.00

Bakelite Eyes

No.	Std. Pkg.	List Price Per 100
963— 3 in.	100	$5.50
964— 7 in.	50	6.60
967—12 in.	25	21.00

COPPERWELD ANTENNA WIRE

(STRETCHLESS)



Has a steel core covered with copper and heavily enameled. It will not elongate because of its high tensile strength — which is several times that of enameled copper wire. It has low R.F. resistance and is ideal for transmitting doublet and directional antenna systems as it will maintain the frequency characteristics of the antenna because of its stretchless qualities.

LIST PRICES

	SIZE (B&S)		
Feet	No. 10	No. 12	No. 14
100	$3.25	$2.25	$1.55
250	8.00	5.50	3.75
500	16.00	11.00	7.25
1000	31.25	22.00	14.25
2500	77.50	54.50	35.50

TENSILE STRENGTH

No. 10	1130 lbs.
No. 12	720 lbs.
No. 14	400 lbs.

SPECIAL LENGTHS AVAILABLE ON ORDER

Birnbach HOOK-UP WIRE

SPECIAL SPOOL ASSORTMENT $.80 LIST PRICE

No.	Ft.	Size	Type
3000	65	22	Solid Pushback
3001	55	20	Solid Pushback
3002	45	18	Solid Pushback
3003	35	16	Solid Pushback
3004	30	14	Solid Pushback
3005	55	22	Strandad Pushback
3006	45	20	Stranded Pushback
3007	40	18	Stranded Pushback
3008	30	16	Stranded Pushback
3009	20	14	Stranded Pushback
3010	50	18	Colored Rubber
3011	35	16	Colored Rubber
3012	30	14	Stranded Leadin
3013	60	18	Solid Leadin
3014	65	18	Stranded Leadin
3015	35	18	Stranded Lacquered
3016	75		Brown & White AC-DC Wire
3017	30		Kinkless Wire
3018	20	18	Twisted Lamp Cord
3019	45	18	Single Fix. Wire
3020	25	18	Parallel Silk
3021	15	18	Blk., Wht., Brn. Zip Cord
3022	100	18	Solid Tinned
3023	75	18	Bell Wire
3024	15	18	Shielded Wire

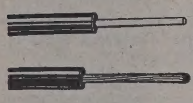
Birnbach
SPOOL
WIRE ASSORTMENT
ELECTRICAL-RADIO-AUTOMOTIVE

FREE DISPLAY One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

EXTRA DISPLAY RACKS AVAILABLE AT $1.25 EACH, NET

Height — 24″ Width — 12½″

RUBBER COVERED LEAD-IN WIRE



Constructed of tinned conductor with a special grade of live rubber compound for outdoor use. Rubber strips easily and leaves the wire clean and bright, ready for splicing and soldering.

SOLID CONDUCTOR 3/64″ WALL

No.	Ft.	Size	O.D.	List Price
1517—	25 Coil	20	.125	$0.25
1518—	50 Coil	20	.125	.48
1519—	100 Coil	20	.125	.95
1520—	500 Spool	20	.125	4.25
1521—	25 Coil	19	.130	.28
1522—	50 Coil	19	.130	.50
1523—	100 Coil	19	.130	1.00
1524—	500 Spool	19	.130	4.60
1525—	25 Coil	18	.135	.30
1526—	50 Coil	18	.135	.55
1527—	100 Coil	18	.135	1.10
1528—	500 Spool	18	.135	5.25
1529—	25 Coil	17	.140	.30
1530—	50 Coil	17	.140	.65
1531—	100 Coil	17	.140	1.25
1532—	500 Spool	17	.140	5.90
517—	25 Coil	16	.145	.45
516—	50 Coil	16	.145	.85
519—	100 Coil	16	.145	1.65
518—	500 Spool	16	.145	7.50
521—	25 Coil	14	.154	.50
520—	50 Coil	14	.154	.95
522—	100 Coil	14	.154	1.90
523—	500 Spool	14	.154	9,50

STRANDED CONDUCTOR 1/32″ WALL

No.	Ft.	Size	O.D.	List Price
2331—	100 Spool	18	.111	1.10
2330—	500 Spool	18	.111	4.75
1541—	50 Coil	16	.125	.85
1543—	250 Spool	16	.125	4.25
1544—	500 Spool	16	.125	7.50
1542—	500 Spool	20	.103	3.75
1545—	1000 Spool	20	.103	7.00

STRANDED CONDUCTOR 3/64″ WALL

No.	Ft.	Size	O.D.	List Price
1552—	25 Coil	18	.141	.40
1551—	50 Coil	18	.141	.75
1550—	100 Spool	18	.141	1.35
1549—	500 Spool	18	.141	6.00
1548—	500 Spool	16	.153	8.00
1553—	500 Spool	14	.175	10.75

RADEX SLIPBACK HOOKUP WIRES

It has a covering of rubber over a cotton wrap and is then covered with a bright color cotton braid and dipped into parafin. This construction will not cause the cotton insulation to fray or bunch up when pushed back. It has a high dielectric strength and will withstand all climatic changes without breakdown.

FOR IMPROVED WIRING
BIRNBACH
HOOK-UP WIRE
BIRNBACH
BIRNBACH RADIO Co INC

	25 FT. COILS				100 FT. SPOOLS				500 FT. SPOOLS			
	Solid		Stranded		Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price	No.	List Price	No.	List Price
20	280	$0.40	281	$0.45	380	$1.60	381	$1.80	480	$8.00	481	$9.00
18	282	.45	283	.50	382	1.80	383	2.00	482	9.00	483	10.00
16	284	.55	285	.60	384	2.20	385	2.40	484	11.00	485	12.00
14	286	.75	287	.90	386	3.00	387	3.60	486	13.50	487	16.00
12	288	1.15	289	1.25	388	4.60	389	5.00	488	23.00	489	25.00

1000 FT. SPOOLS

	Solid		Stranded	
Size	No.	List Price	No.	List Price
20	580	$15.00	581	$16.50
18	582	17.50	583	18.50
16	584	20.00	585	22.50
14	286	25.00	587	28.00
12	588	45.00	589	50.00

SOLID WIRE PUNCTURE VOLTAGE

60 Cycle A.C.

No. 20..........2000
No. 16..........2100
No. 18..........2100
No. 14..........2100
No. 12..........2200

STRANDED WIRE PUNCTURE VOLTAGE

60 Cycle A.C.

No. 20..........2100
No. 18..........2200
No. 16..........2200
No. 14..........2200
No. 12..........2300

COLORS—Black, Red, Blue, Yellow, Green, White, Brown

BIRNTEX SLIPBACK WIRE

This wire is constructed of quality materials and carefully insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with parafin.

SOLID COLORS:—Red, Black, Green, Blue, Yellow, White.
TRACER COLORS:—Red, Black, Green, Blue, Yellow, Brown.

FOR IMPROVED WIRING
BIRNBACH
HOOK-UP WIRE
BIRNBACH
BIRNBACH RADIO Co INC

	25 FT. COILS				100 FT. COILS			
	Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price
22	70	$0.30	71	$0.35	72	$1.20	73	$1.40
20	80	.35	81	.40	84	1.40	85	1.60
18	82	.40	83	.45	86	1.60	87	1.80

	500 FT. SPOOLS				1000 FT. SPOOLS			
	Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price
22	74	$6.00	75	$7.00	76	$11.00	77	$12.50
20	88	7.00	89	8.00	92	12.50	93	14.00
18	90	8.00	91	9.00	94	15.00	95	17.00

Puncture Voltage 60 Cycle A.C. 1500

STRANDED COLORED RUBBER WIRE

It is constructed of carefully annealed stranded tin-copper conductors with a cotton wrap, insulated with a special grade of non-cracking live colored rubber compound. compound. It strips readily and is available in various colors for easy identification.

No.	Ft.	Size	Current Carrying Capacity	Puncture Volts A.C. 60 Cycle	O.D.	Wire Stranding	List
225	25 Coil						$0.40
1225	1000 Spool	$18\frac{1}{64}$	3 Amps	5,500	.087	16-30's	13.00

COLORS:—Red, Black, Yellow, Green, Brown, White.

No.	Ft.	Size	Current Carrying Capacity	Puncture Volts A.C. 60 Cycle	O.D.	Wire Stranding	List
425	25 Coil						$0.65
440	50 Coil	$16\frac{1}{32}$	6 Amps	8,000	.135	26-30's	1.20
1440	100 Spool						2.25
2440	500 Spool						10.50

COLORS:—Red, Black, White, Brown, Green.

FILAMENT WIRE (HIGH AMPERAGE)

No.	Ft.	Size	Current Carrying Capacity	Puncture Volts A.C. 60 Cycle	O.D.	Wire Stranding	List
782	25 Coil						$0.90
786	500 Spool	$14\frac{1}{32}$	15 Amps	8,500	.145	26-28's	18.00
784	25 Coil						1.25
787	500 Spool	$12\frac{3}{64}$	20 Amps	12,000	.190	41-28's	25.00

COLORS:—Red and Black.

SHIELDED LEAD-IN WIRE

Used to prevent the pickup of interference or man-made static. Consists of a stranded tinned copper conductor with a wall of live rubber over which a tinned copper braid is woven.

No. 20—1/64″

No.	Ft.	Cap. mmfd. per Ft.	O.D.	List Price
810—	500 Spool	105	.090	$15.00

No. 18—1/64″

No.	Ft.	Cap. mmfd. per Ft.	O.D.	List Price
807—	25 Coil	125	.100	$0.90
809—	100 Spool	125	.100	3.50
803—	250 Spool	125	.100	8.50

No. 16—1/32″

No.	Ft.	Cap. mmfd. per Ft.	O.D.	List Price
825—	25 Coil	90	.145	$1.10
851—	100 Spool	90	.145	4.25
802—	250 Spool	90	.145	10.00

No. 14—3/64″

No.	Ft.	Cap. mmfd. per Ft.	O.D.	List Price
804—	25 Coil	95	.185	$1.55
806—	100 Spool	95	.185	6.00
801—	250 Spool	95	.185	14.50

Birnbach CABLE and TRANSMISSION LINE

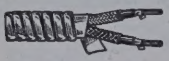
NOTE: CODE "B" FOLLOWING CATALOG NUMBER INDICATES USE OF "BUNA-S"

PA and COMMUNICATING SYSTEM CABLES

Shielded Twisted Pair

Constructed of solid enameled wire with a cotton wrap color coded cotton braid twisted pair waxed, and bare copper braid woven overall.

No.	Size	O.D.	List Price
821—100 Ft.	22	.125	$ 4.00
822—500 Ft.	22	.125	17.50
823—100 Ft.	19	.145	4.25
824—500 Ft.	19	.145	19.50



Armored Speaker Cable

Constructed of 2 No. 18 stranded parallel conductors $\frac{1}{64}$ rubber color coded cotton braid waxed, paper wrap and closely armored.

No.	Size	O.D.	List Price
1110— 100 Ft.	$18\frac{1}{64}$	.155 x .260"	$ 6.75
1111— 250 Ft.	$18\frac{1}{64}$	.155 x .260"	16.00
1112— 500 Ft.	$18\frac{1}{64}$	.155 x .260"	29.00
1113—1000 Ft.	$18\frac{1}{64}$	.155 x .260"	55.00

Rubber Shielded Microphone Cable

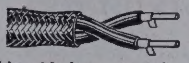
Consists of individual flexible tinned copper conductors, each insulated with a heavy wall of colored rubber for easy identification. A tinned copper shield is woven over all conductors, and then cotton wrapped. A 1/32 wall of tough rubber is placed overall. It is a weatherproof cable, ideal for outdoor use, and will withstand hard and rough usage.

No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D	List Price
772-B	2	100	20	55	31	.270	$12.43
1772-B	2	250	20	55	31	.270	28.25
773-B	3	100	20	58	33	.305	18.98
1773-B	3	250	20	58	33	.305	43.13
774-B	4	100	20	48	28	.345	22.55
1774-B	4	250	20	48	28	.345	51.25
775-B	5	100	20	51	29	.395	26.68
1775-B	5	250	20	51	29	.395	60.63
776-B	6	100	20	45	27	.405	31.63
1776-B	6	100	30	45	27	.405	71.88
777-B	7	100	20	49	27	.420	33.83
1777-B	7	250	20	49	27	.420	76.88

RUBBER S. J. CABLE

Consists of individual flexible tinned copper conductors, each insulated with a heavy wall of colored rubber for easy identification. A 1/32 wall of tough polished rubber is placed overall. It is a weatherproof cable, ideal for outdoor use, and will withstand hard and rough usage.

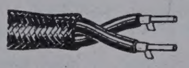
Cat. No.	No. Conds.	Ft. on Spool	O.D.	List Price
788-B	2	100	.250	$11.00
789-B	2	250	.250	25.00
790-B	3	100	.300	13.75
791-B	3	250	.300	31.25
792-B	4	100	.325	16.50
793-B	4	250	.325	37.50
794-B	5	100	.370	19.80
796-B	6	100	.400	24.13
797-B	6	250	.400	59.38
798-B	7	100	.400	25.00
749-B	8	100	.460	30.90



EO1 Transmission Cable (GENUINE)

This cable has a surge impedance of 72 ohms which accurately matches the impedance at the center of the half wave Hertz Antenna. It is constructed of 2 No. 12 Bare Copper conductors having a paper wrap. A special high frequency rubber insulates each side of the line and accurately maintains the impedance. It has a special weatherproofed cotton braid overall with a mica finish.

No. Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100'
956— 100 Spool	$17.00	10 Mcs.	73	1.8
955— 250 Reel	39.00	20 Mcs.	73.7	3.2
954— 500 Reel	75.00	40 Mcs.	73.7	5.9
953—1000 Coil	150.00			



No. 12 Solid Twisted

For Television or Frequency Modulation (100 ohm)

Designed for use with television and Frequency Modulation (FM) receivers. It is constructed of 2 No. 12 bare conductors insulated with a paper wrap with a special grade of rubber insulation which separates and insulates the conductors and helps maintain the correct impedance. Over this is placed a cotton braid impregnated with a weatherproof finish.

No. Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100'
960— 100 Spool	$11.00	10 Mcs.	98	2.4
959— 250 Reel	26.50	20 Mcs.	101	3.5
958— 500 Reel	52.50	40 Mcs.	101	6.2
957—1000 Coil	100.00			

72 OHM No. 14 SOLID

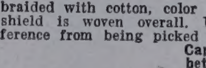
Constructed of 2 No. 14 Solid tinned conductors with a special grade of low loss rubber covered with a weatherproof cotton braid overall. Reasonably priced having many desirable characteristics of the more expensive cable.

No. Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100'
906— 50 Spool	$10.00			
907— 100 Spool	19 00	10 Mcs.	73	1.8
908— 250 Spool	45.00	20 Mcs.	73.8	3.3
909— 500 Spool	45.00	40 Mcs.	74.1	5.8
910—1000 Reel	175.00			

Crystal Microphone Cable

For use with crystal and ribbon microphones. They are designed for low capacity and low losses. Constructed of tinned stranded conductor with a wall of low capacity rubber and closely woven shield and tough rubber wall overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
872-B	100 Crystal	20	37	.270	$10.00
1872-B	250 Crystal	20	37	.270	23.00
870-B	100 Lapel	20	60	.175	6.50
1870-B	250 Lapel	20	60	.175	16.00
871-B	100 Lapel	20	50	.155	6.50
1871-B	250 Lapel	20	50	.155	16.00



Shielded Battery Cable

Constructed of flexible stranded conductors covered with quality rubber compound and braided with cotton, color coded. A tinned copper shield is woven overall. Used to prevent interference from being picked up.

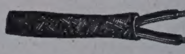
No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D.	List Price
972-B	2	100	20	76	61	.205	$ 6.50
973-B	3	100	20	90	50	.240	10.63
974-B	4	100	20	62	35	.285	13.13
975-B	5	100	20	64	43	.290	16.25
976-B	6	100	20	95	48	.300	18.75
977-B	7	100	20	87	41	.340	23.75
978-B	8	100	20	103	61	.345	25.00
979-B	9	100	20	100	57	.360	28.50
980-B	10	100	20	107	80	.375	31.25

HEAVY DUTY S. J. CABLE

Cat. No.	No. Conds.	Ft.	Gauge	O.D.	List Price each
2 .4-B	2	500	No. 18	.3[illegible]0	$50.00
2578-B	2	500	No. 16	.325	62.50

Commercial Type Twisted Pair

(No. 22 STRANDED)



This cable is used extensively for replacement on all antenna systems. Consists of 2 No. 22 tinned stranded conductors rubber covered and weatherproof braid overall. Available in black or white.

No. Ft.	List Price
950— 50 Coil	$1.80
951—100 Coil	3.50
952—500 Spool	16.00

72 Ohm Rubber Jacket

(No. 16 Stranded)

A very good transmission line designed for long satisfactory use with Television F.M. and Master Antenna Systems. Constructed with 2 No. 16 tinned stranded conductors insulated with a special non aging low loss rubber compound covered with a tough abrasion resisting 40% rubber jacket.

No. Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100'
911— 50 Spool	$ 5.50			
912— 100 Spool	10.50	10 Mcs.	103	1.9
913— 250 Spool	20.00	20 Mcs.	104	3.4
914— 500 Spool	39.00	40 Mcs.	104.5	5.7
915—1000 Spool	75.00			

Commercial Type Twisted Pair

(No. 18 STRANDED)

This cable is used extensively as original equipment of master antenna systems. It is constructed of 2 No. 18 tinned stranded conductors insulated with a special grade of rubber color coded and covered with a white weatherproof cotton braid.

No. Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100'
916— 50 Spool	$ 3.10			
917— 100 Spool	6.00	10 Mcs.	82	2.1
918— 250 Spool	12.00	20 Mcs.	82.5	3.9
919— 500 Spool	23.00	40 Mcs.	82.3	6.3
920—1000 Spool	45.00			

BATTERY CABLE

Constructed of individual rubber insulated stranded conductors, cotton braided and color coded. A closely woven cotton braid overall.

No.	No. Conds.	Ft.	Size	O.D.	List Price
172-B	2	100	20	.200	$ 5.00
173-B	3	100	20	.205	6.25
174-B	4	100	20	.260	8.00
175-B	5	100	20	.300	9.25
176-B	6	100	20	.320	12.00
177-B	7	100	20	.340	13.00
178-B	8	100	20	.370	14.50
179-B	9	100	20	.400	18.00
180-B	10	100	20	.410	20.00
182-B	12	100	20	.430	22.50
With 2 No. 16 Conductors and Balance No. 20					
186	6	100	2 No. 16—4 No. 20	.290	10.50
187	7	100	2 No. 16—5 No. 20	.310	11.50
188	8	100	2 No. 16—6 No. 20	.370	13.50
189	9	100	2 No. 16—7 No. 20	.400	15.50

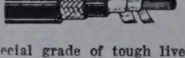
All Cables Available in Special Lengths

Shielded Battery Cable

(Cotton Braid Overall)

Constructed of individual tinned stranded copper with a wall of rubber and covered with a colored cotton braid.

No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D.	List Price
1972	2	100	20	120	65	.215	$ 7.75
1973	3	100	20	86	49	.240	11.00
1974	4	100	20	103	46	.295	13.00
1975	5	100	20	73	38	.312	15.00
1976	6	100	20	70	36	.330	18.00
1977	7	100	20	68	35	.350	20.00



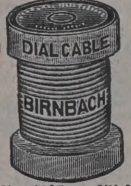
Diathermy Cable

Specially designed for use with electrotherapy apparatus. It is extremely flexible with a special grade of tough live flexible jacket to withstand the exacting service required.

No.	Ft.	Breakdown Voltage 60 Cycles A.C.	O.D.	List Price
756	100 Spool	20,000	.300	$10.00
757	1000 Reel	20,000	.300	90.00

Birnbach BIRACO TUBING DIAL and MAGNET WIRE

NOTE: CODE "B" FOLLOWING CATALOG NUMBER INDICATES USE OF "BUNA-S"



DIAL CABLE
42 Strand Phosphor Cable

Constructed of the finest phosphor bronze wire over a linen thread center. Due to its high tensile strength, it will not stretch.

No. 1025— 25′ Spool List Price $1.20 each
No. 1050— 50′ Spool List Price 2.25 each
No. 1051— 100′ Spool List Price 4.00 each
No. 1052—1000′ Spool List Price 33.00 each

Phosphor Bronze (Light Cable)

A lower quality cable than No. 1025, but a cable that will give good service. This is a braided Phosphor Bronze cable.

No. 1053— 25′ Spool List Price $0.66 each
No. 1054— 50′ Spool List Price 1.25 each
No. 1055— 100′ Spool List Price 2.50 each
No. 1056—1000′ Spool List Price 18.50 each

Extra Heavy Linen Dial Cable

Made of the finest linen for replacement on all receivers, same as used for Philco. It is extra heavy for exceptional long service.

No. 1057— 25′ Spool List Price $1.30 each
No. 1058— 50′ Spool List Price 2.50 each
No. 1059— 100′ Spool List Price 4.50 each
No. 1060—1000′ Spool List Price 36.00 each

Heavy Linen Cable

This braided cable is used for replacement for all Philco Receivers.

No. 2025— 25′ Spool List Price $1.30 each
No. 2050— 50′ Spool List Price 2.50 each
No. 2051— 100′ Spool List Price 4.50 each
No. 2052—1000′ Spool List Price 36.00 each

Light Linen Dial Cable (Silk Core)

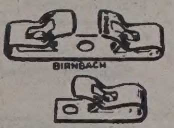
High quality linen cable used on many receivers specially treated to prevent slipping.

No. 3025— 25′ Spool List Price $1.20 each
No. 3050— 50′ Spool List Price 2.25 each
No. 3051— 100′ Spool List Price 4.00 each
No. 3052—1000′ Spool List Price 25.00 each

Extra Light Linen Cable

It is a strong extra thin linen cable for replacement. Braided of the finest black linen.

No. 4025— 25′ Spool List Price $0.75 each
No. 4050— 50′ Spool List Price 1.40 each
No. 4051— 100′ Spool List Price 2.50 each
No. 4052—1000′ Spool List Price 18.50 each



SPRING WIRE CLIPS

They will hold a wire, up to No. 10 B&S Gauge, in a secure contact. All clips are brass nickel-plated.

No.	Length	Std. Pkg.	List Price Per C
32—Spring Clip	1″	100	$1.50
33—Twin Clip	1¾″	100	6.00

ALL RUBBER LAMP CORD
(BUNA-S)

This cord is an all rubber covered insulated parallel cord which can be separated by starting with a knife. Connects easily and cannot fray. Sanitary and neat.

COLORS: Black, White, Brown

2570-B	100 Spool	18	$5.00
2572-B	250 Spool	18	12.50
2573-B	500 Spool	18	25.00

BUS BAR WIRE

Used to hook up all types of transmitters, especially ultra short wave equipment. Made of hard drawn copper, tinned, straightened, and cut 2 ft. lengths.

No.		List Price per 100 lengths
2010	No. 10 Round Tinned	$6.05
2012	No. 12 Square Tinned	4.70
2013	No. 12 Round Tinned	4.15
2014	No. 14 Square Tinned	3.60
2015	No. 14 Round Tinned	3.05

MAGNET WIRE
Special Spools — $.40 List Price

On attractive spools, even sizes from 14 to 40 inclusive, in Double Cotton, Plain Enamel, and Double Silk. Here is a really sensational seller for the dealer who will put this display on the counter. It is a Silent Salesman which will bring you real profit the year around! **FREE DISPLAY!** One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

Extra Display Racks available at $1.25 each, Net.

LENGTH OF WIRE OF SPECIAL SPOOLS

Size B&S	Plain Enamel	Double Cotton	Double Silk	Size B&S	Plain Enamel	Double Cotton	Double Silk	Size B&S	Plain Enamel	Double Cotton	Double Silk
12	15 ft.	9 ft.	— ft.	22	112 ft.	75 ft.	37 ft.	32	675 ft.	180 ft.	124 ft.
14	26 ft.	20 ft.	11 ft.	24	184 ft.	97 ft.	56 ft.	34	900 ft.	195 ft.	131 ft.
16	34 ft.	34 ft.	19 ft.	26	244 ft.	116 ft.	71 ft.	36	1275 ft.	206 ft.	142 ft.
18	56 ft.	44 ft.	23 ft.	28	401 ft.	131 ft.	90 ft.	38	1725 ft.	240 ft.	116 ft.
20	86 ft.	56 ft.	29 ft.	30	525 ft.	158 ft.	112 ft.	40	1950 ft.	265 ft.	125 ft.

¼ LB., ½ LB., 1 LB., *MAGNET WIRE—Approximate Feet and List Prices*

Double Cotton (White)

	¼ lb Spool		½ lb Spool		1 lb Spool	
Size B&S	ft.	List Price	ft.	List Price	ft.	List Price
12	12	$0.40	24	$0.70	49	$1.27
14	19	.41	39	.71	78	1.30
16	31	.44	62	.73	123	1.33
18	48	.45	97	.81	194	1.37
20	78	.49	157	.90	304	1.54
22	119	.55	238	1.02	477	1.75
24	134	.64	269	1.21	738	2.18
26	284	.77	568	1.44	1136	2.54
28	435	.91	871	1.75	1742	2.97
30	641	1.09	1284	2.06	2596	3.53
32	976	1.35	1953	2.55	3906	4.85
34	1365	1.90	2735	3.60	5470	6.80
36	1827	2.60	3654	4.98	7309	9.35
38	2738	5.00	5476	9.35	10952	17.50
40	3405	7.50	6811	14.00	13623	26.00

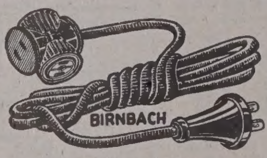
Plain Enamel

	¼ lb Spool		½ lb Spool		1 lb Spool	
Size B&S	ft.	List Price	ft.	List Price	ft.	List Price
12	12	$0.33	25	$0.63	50	$1.08
14	20	.35	40	.65	80	1.10
16	32	.36	63	.66	126	1.12
18	50	.37	100	.67	201	1.16
20	80	.40	160	.68	320	1.21
22	127	.41	254	.72	508	1.27
24	201	.43	403	.77	806	1.33
26	320	.52	640	.92	1280	1.66
28	507	.55	1015	.97	2030	1.75
30	805	.60	1610	1.10	3220	2.00
32	1282	.66	2564	1.18	5128	2.18
34	2037	.75	4075	1.36	8150	2.73
36	3221	.87	6442	1.59	12887	2.98
38	5132	1.00	10246	1.85	20492	3.47
40	8143	1.50	16286	2.77	32573	5.25

Double Silk (Green)

	¼ lb Spool		½ lb Spool		1 lb Spool	
Size B&S	ft.	List Price	ft.	List Price	ft.	List Price
12	12	$0.57	24	$1.12	49	$2.12
14	19	.60	39	1.15	78	2.15
16	31	.65	62	1.25	125	2.27
18	49	.72	99	1.31	198	2.50
20	78	.83	157	1.62	314	3.05
22	123	.96	247	1.87	495	3.35
24	195	1.06	390	2.06	781	4.00
26	303	1.28	606	2.50	1212	4.90
28	478	1.43	956	2.81	1912	5.31
30	739	1.62	1479	3.12	2958	6.25
32	1136	2.18	2272	4.25	4545	8.50
34	1712	2.81	3424	5.50	6849	10.60
36	2551	4.37	5102	8.50	10204	16.25
38	3770	6.25	7541	11.85	15082	22.50
40	5040	9.35	10080	17.75	20161	33.50

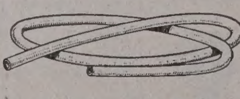
ELECTRIC EXTENSION CORDS



Constructed of Underwriters Approved P.O.S.J. All Rubber. Has a bakelite three outlet tap on one end of the cord and is equipped with a cap for insertion into the nearest wall outlet. Is easily installed and brings three convenient outlets where they are needed. Available only in brown.

No.	Ft.	List Price
608	6	$0.75
509	9	.85
514	12	.95
515	15	1.00
511	20	1.10

BIRACO TUBING *(Extruded)*



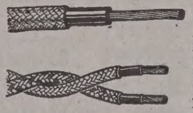
It is an extruded tubing made of the new synthetic plastic material. Extremely flexible and when stretched returns to its original form. Withstands the effects of heat and will not support combustion. Will only soften at 300°F and will not flow at 425°F. Its dielectric strength:—750 volts per mil. when dry and 350 volts when wet. It is not affected by oil and is resistant to most coal tar solvents and petroleum solvents. Resists acids, alkalies in concentrations up to 30% by weight. Available in continuous lengths. Dielectric strength—10,000 volts.

COLORS: Black, Red, Green, White and Yellow

No.	Size	I.D.	List Price per 36″ lengths
313	20	.034	$0.14
314	18	.042	.14
315	16	.053	.15
316	14	.066	.16
317	12	.085	.16
318	8	.135	.40
319	4	.208	.45
320	2	.263	.50
321	5/16	.3125	.55
322	⅜	.375	.60
323	½	.500	1.00
324	⅝	.625	1.10

Write for prices in long lengths

FIXTURE WIRE

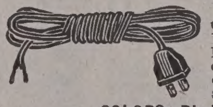


A flexible stranded rubber insulated wire with a closely woven cotton braid overall. Useful for interior wiring and as indoor aerials. A popular wire for connecting ground and aerial connection of radio receivers.

COLORS: White or Brown

No.			List Price
565	1000 ft. No. 20-1/64	Single Conductor	each $17.50
566	1000 ft. No. 18-1/64	Single Conductor	each 18.50
568	500 ft. No. 17-1/64	Twisted Pair	each 15.00
569	500 ft. No. 20-1/64	Twisted Pair	each 14.00

SERVICE CORDS

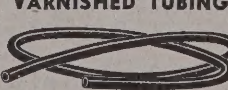


Constructed of all rubber Underwriters Approved lamp cord and plug on one end and with the other end stripped and tinned all ready for use.

COLORS: Black or Brown

No.	Ft.	List Price
817-B	7½	$0.55
819-B	10	.65

VARNISHED TUBING



Provides quality insulation for wires used on radio sets, small electrical equipment and instruments. The outside is impervious to oil, acid and water. It is highly flexible and will not crack after aging. Average dielectric strength 5000 volts.

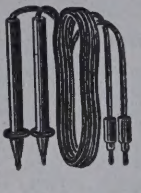
COLORS: Black, Red, Green, White and Yellow

No.	Size	I.D.	List Price per 30″ lengths
291	20	.034	$0.14
293	18	.042	.14
294	16	.053	.14
295	14	.066	.14
300	12	.085	.14
301	8	.133	.40
297	3/16	.208	.40
298	¼	.263	.50
303	5/16	.3125	.55
304	⅜	.375	.60
299	½	.500	1.10
296	⅝	.625	1.15

Write for prices in long lengths

Birnbach TEST LEADS and ACCESSORIES

High Voltage Test Leads



The high dielectric strength and low leakage resistance of these test leads recommend them for for testing high voltage high sensitivity devices such as Meggers and Megohmeters. They are particularly well suited for use in testing breakdown voltages up to 1200 volts. The prods and the tip handles are made of black and red bakelite with special designed tips for application. The prods are 6″ long and ½″ dia. and have a guard ring near the metal tip to prevent accidental touching of the exposed metal part. Extra heavy kinkless test lead wire 7/32″ dia. is used throughout. The leads are 60″ long.

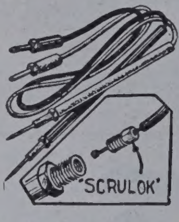
No.	List Price
562—High Voltage Test Leads	$4.50

DeLuxe Test Leads

Constructed with 5″ long cast phenolic red and black handles with removable needlepoint chucks or solderless tips. Black and red heavy kinkless instrument 48″ long is used to connect the prods with the insulated red and black cast phenolic solderless tips. Either needlepoint or solderless tip available.

No.	List Price
560—Solderless prod test leads	$1.35
561—Needlepoint prod test leads	1.35

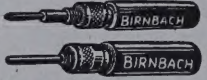
Bakelite Pencil Type Test Leads



Red and black bakelite handles, 6″ long and 5/16″ in dia. and red and black bakelite insulated phone tips. Heavy kinkless wire is used together with the Birnbach Scrulok system of solderless wire connection. The Universal needle and phone tip prod have the same dimensions as the standard phone tip and are useful for piercing insulation without damage. The needlepoint is extra heavy to prevent breakage and should it become broken can be readily replaced. Available only in combination of needlepoint prods and insulated phone tips. Length overall 60″.

No.	List Price
408—Bakelite Pencil Type Test Lead	$2.00
439—Needlepoint Prod Tip for Replacement	.17

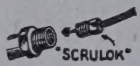
Insulated Solderless Phone Tips



Insulated handles ⅜″ dia. by 1″ long fitted to solderless phone tips. The wire can be easily attached by threading through the hole in the handle and tightening the knurled nut. Colors:—red, black, green, and yellow.

No.	List Price
409—Insulated Sr. Solderless Tip—2¼″ Long ......each	$0.15
415—Insulated Jr. Solderless Tip—$1\frac{13}{16}$″ Long ......each	.14

Insulated Phone Tip



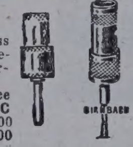
The insulated handle is 1″ long, $\frac{5}{16}$″ dia. Connection is made by threading wire through the Scrulok threaded bushing (see drawing). Colors: red, black, green and yellow.

No.	List Price
412—Scrulok Pin Tip, $1\frac{9}{16}$″ Long ....each	$0.17
419—Scrulok Pin Tip, $1\frac{15}{16}$″ Long ....each	.22

Phone Tip

Ideal for replacement on headset, speaker and extension cords.
No. 402—Std. Pkg. 100
List Price $1.90 per C

Solderless Phone Tips

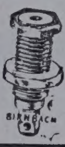


Milled of solid brass and nickel-plated. Designed for easy insertion of the wire.

No.	List Price per C
24—Junior	$8.00
24—Senior	9.00

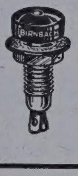
Std. Pkg. 100.

No. 26 Phone Tip Jack



Milled of brass and nickel plated. The bronze springs are specially made to hold the phone tip tight and straight. Mounts in a ¼″ dia. hole.
No. 26—Std. Pkg. 100.
List Price $9.00 per C

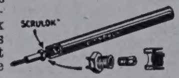
No. 407 Insulated Tip Jack



Has a $\frac{7}{16}$″ insulated top and mounts in a $\frac{5}{16}$″ dia. hole. The specially designed bronze springs hold the phone tip tight and straight. Colors:—red, black, yellow, and green. Std. Pkg. 100.

No.	List Price
407—Insulated Phone Tip Jack	$0.13

No. 411 Bakelite Pencil Test Prods



These prods have the Birnbach Scrulok solderless needlepoint tips. They are made of bakelite and are 6″ long and $\frac{5}{16}$″ dia. The connection is made by threading the wire through the handle and securing to the needlepoint tip by locking the Scrulok. The tip is then screwed into the handle. Available in red or black only.

No.	List Price
411—Bakelite Pencil Test Prods	$0.75

Solderless Tip Prod

Made of highly polished cast phenolic resin. A solderless phone tip is threaded at end permitting replacement of tip, Available in red or black.

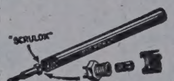
No.		List Price
410	4″ Handle	$0.33
343	5″ Handle	.40

Needlepoint Test Prod

A threaded shank needlepoint chuck is threaded into the end of handle. Made of highly polished cast phenolic handle. Available in red or black.

No.	List Price
344—Needlepoint Test Prod, 4″ Handle	$0.35
345—Needlepoint Test Prod, 5″ Handle	.40

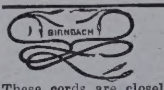
SCRULOCK Needlepoint Test Prods



These insulated prods have the Scrulok solderless system of wire connection. Wire is easily attached without soldering. An extra heavy needle is fitted into the tip. Colors:—black or red.

No.	List Price
417—Needlepoint Test Prod, 4″ Handle	$0.35
418—Needlepoint Test Prod, 5″ Handle	.40

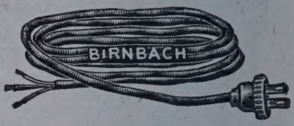
Headset Phone Cords



These cords are closely woven and are very durable and strong. They are used for replacement of worn headset cords. Standard cords are listed which will match practically all headsets manufactured. We will be glad to quote on cords having special terminal requirements.

No.		List Price
	ends	$0.75
105	5 ft., Pin & Spade Tips	.75
105	5 ft., Pin & Spade Tips	.75
107	5 ft., Pin & Eye Tips	.75
108	8 ft., Pin & Eye Tips	.95
109	10 ft., Pin & Eye Tips	1.40

AC-DC Resistance Cords

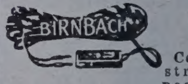


Designed for replacement of the internal voltage dropping resistor on the present and older type of AC-DC sets. It consists of a line cord into which a third element has been incorporated. The voltage dropping resistor reduces the voltage to that needed for the filament of the tubes.

No.	Cord Rating	Sets Having Following Tubes	List Price Each
35	135 ohm	25Z5-43-4*	$0.85
36	160 ohm	25Z5-43-3*	.85
34	180 ohm	12Z3-43-4*	.85
49	200 ohm	25Z5-43-2*	.85
37	220 ohm	12Z3-43-3*	.85
41	250 ohm	12Z3-43-2*	.85
		25Z5 -3*	.85
38	290 ohm	12Z3 -3*	.85
45	300 ohm		.85
39	330 ohm	-4*	.85
		12Z3 -2*	
40	350 ohm	12Z3 -1*	.85
		-3*	
47	390 ohm	-2*	.85
125	220-110 Volt Voltage reducing cord		1.50
126	280 ohm	4 Wire†	1.25
127	190 ohm	4 Wire†	1.25
128	165 ohm	4 Wire†	1.25

* 6.3 volt tubes. † For Emerson Radio.

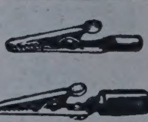
Speaker Extension Cords



Constructed of stranded annealed copper wire insulated with rubber over which a brown mercerized cotton braid is closely woven. Complete with easily attached bakelite connector.

No.	List Price
166— 10 ft. Cord..........each	$1.00
120— 50 ft. Cord..........each	1.35
121— 30 ft. Cord..........each	1.80
122— 40 ft. Cord..........each	2.05
123— 50 ft. Cord..........each	2.35
124—100 ft. Cord..........each	4.50
151—Bakelite Extension Cord, Connector only ....each	.40

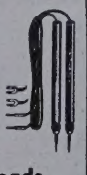
Alligator Clips



Made of steel nickel plated. The jaws match accurately permitting them to grip all kinds of wire securely. The insulated handle is ⅜″ dia. and ¾″ long and comes in red or black.

No.	Length	Std. Pkg.	List Price
31—Alligator clip	2″	50	$.08½
310—Insulated Alligator clip	2¼″	50	.17

Test Leads (Bakelite Handles)



Have 4″ red and black insulated handles. Needles can be replaced when broken simply by loosening the knurled collar. Available with either phone tips or spade lugs. Length overall 50″.

No.	List Price
4420—Phone Tip Test Leads	$1.12½
4421—Spade Lug Test Leads	1.12½

Standard Test Leads

Same as above with a Sr. solderless phone tip.

No.	List Price
4422—Phone Tip Test Leads	$1.12½
4423—Spade Lug Test Leads	1.12½

Kinkless Test Lead Wire

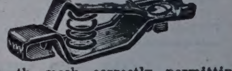
Abrasion resisting live rubber that will not kink or break down in service. No. 20 has 41 strands and No. 18 has 66 strands of No. 36 tinned annealed copper wire.

BIRNBACH
"KINKLESS"

No.	Ft.	Price	Size	Rubber Wall Thicknesses	Puncture Voltage 60 Cycle A.C.	O.D.
60	25	$0.60	$20\frac{3}{64}$			
61	100	2.25		0.45	12,000	.140
62	500	10.50				
64	25	.95	$18\frac{3}{64}$	.045	12,000	.155
66	100	3.25				
67	500	15.00				
HIGH VOLTAGE TEST LEAD WIRE						
63	25	1.85	$18\frac{5}{64}$	.076	16,500	.218
68	100	6.50				
69	500	30.00				

COLORS:—Red and Black.

Test Clips

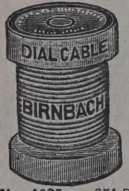


The teeth mesh correctly permitting good contact to be made. The No. 27-S is a solid copper clip with a brass screw designed for high frequency work. Sturdily constructed. Standard Package 50.

No.	Lgth.	Jaw Spread	Price ea.
27—Pee Wee	1½″	⅜″	$0.08
28—Midget	2″	$\frac{9}{16}$″	.08
29—Medium	2⅞″	1″	.11
30—Large	4″	1¼″	.20
27C—Pee Wee Copper	1½″	⅜″	.17
27R—Rubber Sleeve—red or black			.16

Birnbach BIRACO TUBING DIAL and MAGNET WIRE

NOTE: CODE "B" FOLLOWING CATALOG NUMBER INDICATES USE OF "BUNA-S"



DIAL CABLE

42 Strand Phosphor Cable

Constructed of the finest phosphor bronze wire over a linen thread center. Due to its high tensile strength, it will not stretch.

No. 1025— 25′ Spool **List Price $1.20 each**
No. 1050— 50′ Spool **List Price 2.25 each**
No. 1051— 100′ Spool **List Price 4.00 each**
No. 1052—1000′ Spool **List Price 33.00 each**

Phosphor Bronze (Light Cable)

A lower quality cable than No. 1025, but a cable that will give good service. This is a braided Phosphor Bronze cable.

No. 1053— 25′ Spool **List Price $0.66 each**
No. 1054— 50′ Spool **List Price 1.25 each**
No. 1055— 100′ Spool **List Price 2,50 each**
No. 1056—1000′ Spool **List Price 18.50 each**

Extra Heavy Linen Dial Cable

Made of the finest linen for replacement on all receivers, same as used for Philco. It is extra heavy for exceptional long service.

No. 1057— 25′ Spool **List Price $1.30 each**
No. 1058— 50′ Spool **List Price 2.50 each**
No. 1059— 100′ Spool **List Price 4.50 each**
No. 1060—1000′ Spool **List Price 36.00 each**

Heavy Linen Cable

This braided cable is used for replacement for all Philco Receivers.

No. 2025— 25′ Spool **List Price $1.30 each**
No. 2050— 50′ Spool **List Price 2,50 each**
No. 2051— 100′ Spool **List Price 4.50 each**
No. 2052—1000′ Spool **List Price 36.00 each**

Light Linen Dial Cable (Silk Core)

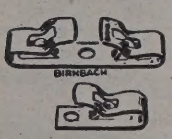
High quality linen cable used on many receivers specially treated to prevent slipping.

No. 3025— 25′ Spool **List Price $1.20 each**
No. 3050— 50′ Spool **List Price 2.25 each**
No. 3051— 100′ Spool **List Price 4.00 each**
No. 3052—1000′ Spool **List Price 25.00 each**

Extra Light Linen Cable

It is a strong extra thin linen cable for replacement. Braided of the finest black linen.

No. 4025— 25′ Spool **List Price $0.75 each**
No. 4050— 50′ Spool **List Price 1.40 each**
No. 4051— 100′ Spool **List Price 2.50 each**
No. 4052—1000′ Spool **List Price 18.50 each**



SPRING WIRE CLIPS

They will hold a wire, up to No. 10 B&S Gauge, in a secure contact. All clips are brass nickel-plated.

No.	Length	Std. Pkg.	List Price Per C
32—Spring Clip	1″	100	$1.50
33—Twin Clip	1¾″	100	6.00

ALL RUBBER LAMP CORD

(BUNA-S)

This cord is an all rubber covered insulated parallel cord which can be separated by starting with a knife. Connects easily and cannot fray. Sanitary and neat.

COLORS: Black, White, Brown

2570-B—100 Spool	18	$5.00
2572-B—250 Spool	18	12.50
2573-B—500 Spool	18	25.00

BUS BAR WIRE

Used to hook up all types of transmitters, especially ultra short wave equipment. Made of hard drawn copper, tinned, straightened, and cut 2 ft. lengths.

No.	List Price per 100 lengths
2010—No. 10 Round Tinned	$6.05
2012—No. 12 Square Tinned	4.70
2013—No. 12 Round Tinned	4.15
2014—No. 14 Square Tinned	3.60
2015—No. 14 Round Tinned	3.05

MAGNET WIRE

Special Spools — $.40 List Price

On attractive spools, even sizes from 14 to 40 inclusive, in Double Cotton, Plain Enamel, and Double Silk. Here is a really sensational seller for the dealer who will put this display on the counter. It is a Silent Salesman which will bring you real profit the year around! **FREE DISPLAY!** One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

Extra Display Racks available at $1.25 each, Net.

LENGTH OF WIRE OF SPECIAL SPOOLS

Size B&S	Plain Enamel	Double Cotton	Double Silk
12	15 ft.	9 ft.	— ft.
14	26 ft.	20 ft.	11 ft.
16	34 ft.	34 ft.	19 ft.
18	56 ft.	44 ft.	23 ft.
20	86 ft.	56 ft.	29 ft.
22	112 ft.	75 ft.	37 ft.
24	184 ft.	97 ft.	56 ft.
26	244 ft.	116 ft.	71 ft.
28	401 ft.	131 ft.	90 ft.
30	525 ft.	158 ft.	112 ft.
32	675 ft.	180 ft.	124 ft.
34	900 ft.	195 ft.	131 ft.
36	1275 ft.	206 ft.	142 ft.
38	1725 ft.	240 ft.	116 ft.
40	1950 ft.	265 ft.	125 ft.

¼ LB., ½ LB., 1 LB., *MAGNET WIRE—Approximate Feet and List Prices*

Double Cotton (White)

Size B&S	¼ lb Spool ft.	¼ lb Spool List Price	½ lb Spool ft.	½ lb Spool List Price	1 lb Spool ft.	1 lb Spool List Price
12	12	$0.40	24	$0.70	49	$1.27
14	19	.41	39	.71	78	1.30
16	31	.44	62	.73	123	1.33
18	48	.45	97	.81	194	1.37
20	78	.49	157	.90	304	1.54
22	119	.55	238	1.02	477	1.75
24	134	.64	269	1.21	738	2.18
26	284	.77	568	1.44	1136	2.54
28	435	.91	871	1.75	1742	2.97
30	641	1.09	1284	2.06	2596	3.53
32	976	1.35	1953	2.55	3906	4.85
34	1365	1.90	2735	3.60	5470	6.80
36	1827	2.60	3654	4.98	7309	9.35
38	2738	5.00	5476	9.35	10952	17.50
40	3405	7.50	6811	14.00	13623	26.00

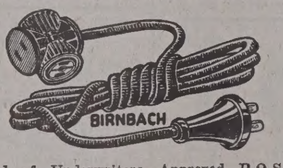
Plain Enamel

Size B&S	¼ lb Spool ft.	¼ lb Spool List Price	½ lb Spool ft.	½ lb Spool List Price	1 lb Spool ft.	1 lb Spool List Price
12	12	$0.33	25	$0.63	50	$1.08
14	20	.35	40	.65	80	1.10
16	32	.36	63	.66	126	1.12
18	50	.37	100	.67	201	1.16
20	80	.40	160	.68	320	1.21
22	127	.41	254	.72	508	1.27
24	201	.43	403	.77	806	1.33
26	320	.52	640	.92	1280	1.66
28	507	.55	1015	.97	2030	1.75
30	805	.60	1610	1.10	3220	2.00
32	1282	.66	2564	1.18	5128	2.18
34	2037	.75	4075	1.36	8150	2.73
36	3221	.87	6442	1.59	12887	2.98
38	5132	1.00	10246	1.85	20492	3.47
40	8143	1.50	16286	2.77	32573	5.25

Double Silk (Green)

Size B&S	¼ lb Spool ft.	¼ lb Spool List Price	½ lb Spool ft.	½ lb Spool List Price	1 lb Spool ft.	1 lb Spool List Price
12	12	$0.57	24	$1.12	49	$2.12
14	19	.60	39	1.15	78	2.15
16	31	.65	62	1.25	125	2.27
18	49	.72	99	1.31	198	2.50
20	78	.83	157	1.62	314	3.05
22	123	.96	247	1.87	495	3.35
24	195	1.06	390	2.06	781	4.00
26	303	1.28	606	2.50	1212	4.90
28	478	1.43	956	2.81	1912	5.31
30	739	1.62	1479	3.12	2958	6.25
32	1136	2.18	2272	4.25	4545	8.50
34	1712	2.81	3424	5.50	6849	10.60
36	2551	4.37	5102	8.50	10204	16.25
38	3770	6.25	7541	11.85	15082	22.50
40	5040	9.35	10080	17.75	20161	33.50

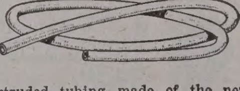
ELECTRIC EXTENSION CORDS



Constructed of Underwriters Approved P.O.S.J. All Rubber. Has a bakelite three outlet tap on one end of the cord and is equipped with a cap for insertion into the nearest wall outlet. Is easily installed and brings three convenient outlets where they are needed. Available only in brown.

No.	Ft.	List Price
608	6	$0.75
509	9	.85
514	12	.95
515	15	1.00
511	20	1.10

BIRACO TUBING *(Extruded)*

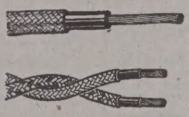


It is an extruded tubing made of the new synthetic plastic material. Extremely flexible and when stretched returns to its original form. Withstands the effects of heat and will not support combustion. Will only soften at 300°F and will not flow at 425°F. Its dielectric strength:—750 volts per mil. when dry and 350 volts when wet. It is not affected by oil and is resistant to most coal tar solvents and petroleum solvents. Resists acids, alkalies in concentrations up to 30% by weight. Available in continuous lengths. Dielectric strength—10,000 volts.

COLORS: Black, Red, Green, White and Yellow

No.	Size	I.D.	List Price per 36″ lengths
313	20	.034	$0.14
314	18	.042	.14
315	16	.053	.15
316	14	.066	.16
317	12	.085	.16
318	8	.135	.40
319	4	.208	.45
320	2	.263	.50
321	5/16	.3125	.55
322	⅜	.375	.60
323	½	.500	1.00
324	⅝	.625	1.10

Write for prices in long lengths

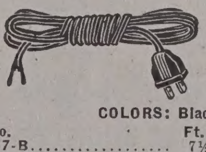


FIXTURE WIRE

A flexible stranded rubber insulated wire with a closely woven cotton braid overall. Useful for interior wiring and as indoor aerials. A popular wire for connecting ground and aerial connection of radio receivers.

.. COLORS: White or Brown

No.	List Price
565—1000 ft. No. 20-1/64 Single Conductor..each	$17.50
566—1000 ft. No. 18-1/64 Single Conductor..each	18.50
568— 500 ft. No. 17-1/64 Twisted Pair.....each	15.00
569— 500 ft. No. 20-1/64 Twisted Pair.....each	14.00



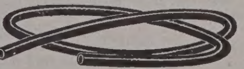
SERVICE CORDS

Constructed of all rubber Underwriters Approved lamp cord and plug on one end and with the other end stripped and tinned all ready for use.

COLORS: Black or Brown

No.	Ft.	List Price
817-B	7½	$0.55
819-B	10	.65

VARNISHED TUBING



Provides quality insulation for wires used on radio sets, small electrical equipment and instruments. The outside is impervious to oil, acid and water. It is highly flexible and will not crack after aging. Average dielectric strength 5000 volts.

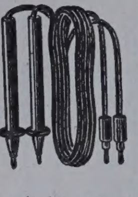
COLORS: Black, Red, Green, White and Yellow

No.	Size	I.D.	List Price per 30″ lengths
291	20	.034	$0.14
293	18	.042	.14
294	16	.053	.14
295	14	.066	.14
300	12	.085	.14
301	8	.133	.40
297	3/16	.208	.40
298	¼	.263	.50
303	5/16	.3125	.55
304	⅜	.375	.60
299	½	.500	1.10
296	⅝	.625	1.15

Write for prices in long lengths

BIRNBACH Birnbach TEST LEADS and ACCESSORIES

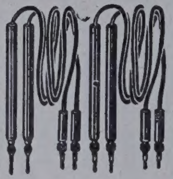
High Voltage Test Leads



The high dielectric strength and low leakage resistance of these test leads recommend them for for testing high voltage high sensitivity devices such as Meggers and Megohmeters. They are particularly well suited for use in testing breakdown voltages up to 1200 volts. The prods and the tip handles are made of black and red bakelite with special designed tips for application. The prods are 6" long and ½" dia. and have a guard ring near the metal tip to prevent accidental touching of the exposed metal part. Extra heavy kinkless test lead wire 7/32" dia. is used throughout. The leads are 60" long.

No.		List Price
562	High Voltage Test Leads	$4.50

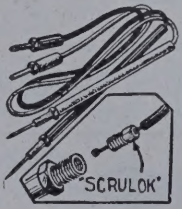
DeLuxe Test Leads



Constructed with 5" long cast phenolic red and black handles with removable needlepoint chucks or solderless tips. Black and red heavy kinkless instrument 48" long is used to connect the prods with the insulated red and black cast phenolic solderless tips. Either needlepoint or solderless tip available.

No.		List Price
560	Solderless prod test leads	$1.35
561	Needlepoint prod test leads	1.35

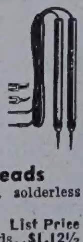
Bakelite Pencil Type Test Leads



Red and black bakelite handles, 6" long and 5/16" in dia. and red and black bakelite insulated phone tips. Heavy kinkless wire is used together with the Birnbach Scrulok system of solderless wire connection. The Universal needle and phone tip prod have the same dimensions as the standard phone tip and are useful for piercing insulation without damage. The needlepoint is extra heavy to prevent breakage and should it become broken can be readily replaced. Available only in combination of needlepoint prods and insulated phone tips. Length overall 60".

No.		List Price
408	Bakelite Pencil Type Test Lead	$2.00
439	Needlepoint Prod Tip for Replacement	.17

Test Leads (Bakelite Handles)



Have 4" red and black insulated handles. Needles can be replaced when broken simply by loosening the knurled collar. Available with either phone tips or spade lugs. Length overall 50".

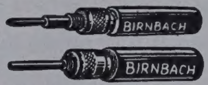
No.		List Price
4420	Phone Tip Test Leads	$1.12½
4421	Spade Lug Test Leads	1.12½

Standard Test Leads

Same as above with a Sr. solderless phone tip.

No.		List Price
4422	Phone Tip Test Leads	$1.12½
4423	Spade Lug Test Leads	1.12½

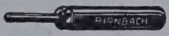
Insulated Solderless Phone Tips



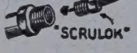
Insulated **handles** ⅜" dia. by 1" long fitted to solderless phone tips. The wire can be easily attached by threading through the hole in the handle and tightening the knurled nut. Colors:—red, black, green, and yellow.

No.		List Price
409	Insulated Sr. Solderless Tip—2¼" Long each	$0.15
415	Insulated Jr. Solderless Tip—$1\frac{13}{16}$" Long each	.14

Insulated Phone Tip



The insulated handle is 1" long, $\frac{5}{16}$" dia. Connection is made by threading wire through the Scrulok threaded bushing (see drawing).



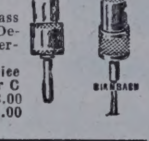
Colors: red, black, green and yellow.

No.		List Price
412	Scrulok Pin Tip, $1\frac{9}{16}$" Long each	$0.17
419	Scrulok Pin Tip, $1\frac{15}{16}$" Long each	.22

Phone Tip

Ideal for replacement on headset, speaker and extension cords.
No. 402—Std. Pkg. 100
List Price $1.90 per C

Solderless Phone Tips

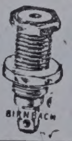


Milled of solid brass and nickel-plated. Designed for easy insertion of the wire.

No.		List Price per C
24	Junior	$8.00
24	Senior	9.00

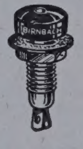
Std. Pkg. 100.

No. 26 Phone Tip Jack



Milled of brass and nickel plated. The bronze springs are specially made to hold the phone tip tight and straight. Mounts in a ¼" dia. hole.
No. 26—Std. Pkg. 100.
List Price $9.00 per C

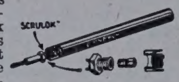
No. 407 Insulated Tip Jack



Has a $\frac{7}{16}$" insulated top and mounts in a $\frac{5}{16}$" dia. hole. The specially designed bronze springs hold the phone tip tight and straight. Colors:—red, black, yellow, and green. Std. Pkg. 100.

No.		List Price
407	Insulated Phone Tip Jack	$0.13

No. 411 Bakelite Pencil Test Prods



These prods have the Birnbach Scrulok solderless needlepoint tips. They are made of bakelite and are 6" long and $\frac{5}{16}$" dia. The connection is made by threading the wire through the handle and securing to the needlepoint tip by locking the Scrulok. The tip is then screwed into the handle. Available in red or black only.

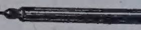
No.		List Price
411	Bakelite Pencil Test Prods	$0.75

Solderless Tip Prod

Made of highly polished cast phenolic resin. A solderless phone tip is threaded at end permitting replacement of tip, Available in red or black.

No.		List Price
410	4" Handle	$0.33
343	5" Handle	.40

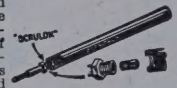
Needlepoint Test Prod



A threaded shank needlepoint chuck is threaded into the end of handle. Made of highly polished cast phenolic handle. Available in red or black.

No.		List Price
344	Needlepoint Test Prod, 4" Handle	$0.35
345	Needlepoint Test Prod, 5" Handle	.40

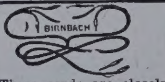
SCRULOCK Needlepoint Test Prods



These insulated prods have the Scrulok solderless system of wire connection. Wire is easily attached without soldering. An extra heavy needle is fitted into the tip. Colors:—black or red.

No.		List Price
417	Needlepoint Test Prod, 4" Handle	$0.35
418	Needlepoint Test Prod, 5" Handle	.40

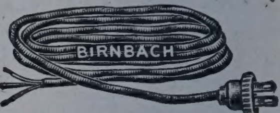
Headset Phone Cords



These cords are closely woven and are very durable and strong. They are used for replacement of worn headset cords. Standard cords are listed which will match practically all headsets manufactured. We will be glad to quote on cords having special terminal requirements.

No.		List Price
	ends	$0.75
105	5 ft., Pin & Spade Tips	.75
105	5 ft., Pin & Spade Tips	.75
107	5 ft., Pin & Eye Tips	.75
108	8 ft., Pin & Eye Tips	.95
109	10 ft., Pin & Eye Tips	1.40

AC-DC Resistance Cords

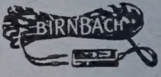


Designed for replacement of the internal voltage dropping resistor on the present and older type of AC-DC sets. It consists of a line cord into which a third element has been incorporated. The voltage dropping resistor reduces the voltage to that needed for the filament of the tubes.

No.	Cord Rating	Sets Having Following Tubes	List Price Each
35	135 ohm	25Z5-43-4*	$0.85
36	160 ohm	25Z5-43-3*	.85
34	180 ohm	12Z3-43-4*	.85
49	200 ohm	25Z5-43-2*	.85
37	220 ohm	12Z3-43-3*	.85
41	250 ohm	12Z3-43-2*	.85
		25Z5 -3*	.85
38	290 ohm	12Z3 -3*	.85
45	300 ohm		.85
39	330 ohm	-4*	.85
		12Z3 -2*	
40	350 ohm	12Z3 -1*	.85
		-3*	
47	390 ohm	-2*	.85
125	220-110 Volt Voltage reducing cord		1.50
126	280 ohm	4 Wire†	1.25
127	190 ohm	4 Wire†	1.25
128	165 ohm	4 Wire†	1.25

* 6.3 volt tubes. † For Emerson Radio.

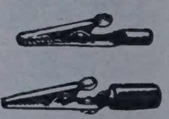
Speaker Extension Cords



Constructed of stranded annealed copper wire insulated with rubber over which a brown mercerized cotton braid is closely woven. Complete with easily attached bakelite connector.

No.		List Price
166	10 ft. Cord each	$1.00
120	50 ft. Cord each	1.35
121	30 ft. Cord each	1.80
122	40 ft. Cord each	2.05
123	50 ft. Cord each	2.35
124	100 ft. Cord each	4.50
151	Bakelite Extension Cord, Connector only each	.40

Alligator Clips

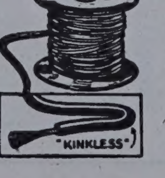


Made of steel nickel plated. The jaws match accurately permitting them to grip all kinds of wire securely. The insulated handle is ⅜" dia. and ¾" long and comes in red or black.

No.		Length	Std. Pkg.	List Price
31	Alligator clip	2"	50	$.08½
310	Insulated Alligator clip	2¼"	50	.17

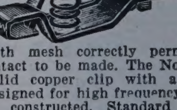
Kinkless Test Lead Wire

Abrasion resisting live rubber that will not kink or break down in service. No. 20 has 41 strands and No. 18 has 66 strands of No. 36 tinned annealed copper wire.



No.	Ft.	Price	Size	Rubber Wall Thicknesses	Puncture Voltage 60 Cycle A.C.	O.D.
60	25	$0.60	$20\frac{3}{64}$			
61	100	2.25		0.45	12,000	.140
62	500	10.50				
64	25	.95	$18\frac{3}{64}$	.045	12,000	.155
66	100	3.25				
67	500	15.00				
		HIGH VOLTAGE TEST LEAD WIRE				
63	25	1.85	$18\frac{5}{64}$	.076	16,500	.218
68	100	6.50				
69	500	30.00		COLORS:—Red and Black.		

Test Clips

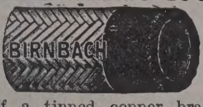


The teeth mesh correctly permitting good contact to be made. The No. 27-S is a solid copper clip with a brass screw designed for high frequency work. Sturdily constructed. Standard Package 50.

	Lgth.	Jaw Spread	Price ea.
27—Pee Wee	1½"	⅜"	$0.08
28—Midget	2"	$\frac{9}{16}$"	.08
29—Medium	2⅞"	1"	.11
30—Large	4"	1¼"	.20
27C—Pee Wee Copper	1½"	⅜"	.17
27R—Rubber Sleeve—red or black			.16

Birnbach AUTO CABLE and ACCESSORIES

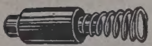
SHIELDED FABRIC LOOM



Is made of a tinned copper braid over a weatherproof loom. Used to shield auto antenna leadin and grouped leads against interference, also in shielding the output of signal generators.

No.	Inside Dia.	List Price
1316—100 ft. Spool	$\frac{3}{16}$"	$ 9.35
1516—100 ft. Spool	$\frac{5}{16}$"	13.50
1038—100 ft. Spool	⅜"	15.50
1716—100 ft. Spool	$\frac{7}{16}$"	19.00
1012—100 ft. Spool	½"	22.00

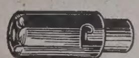
Ford V-8 Distributor Suppressor



Designed to be inserted in the distributor of Ford V-8. Unit consists of a resistor brush which replaces the regular brush.

No. 365..............................List Price $ .28

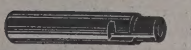
AUTO ANTENNA CONNECTOR



Permits quick connection of the auto antenna lead-in to the receiver.

No.	List Price
366—Auto Connector	per C $7.50

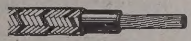
FUSED ANTENNA CONNECTOR



This connector takes a standard 3 AG automobile fuse. Used in auto radio power supply cables.

No.	List Price
367—Fused Connector	per C $11.00

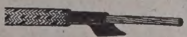
HIGH VOLTAGE LACQUERED WIRE



Recommended for use as leads for wiring high voltage devices, and transmitter power supplies. Constructed of tinned stranded copper conductor with a wall of rubber covered with a highly lacquered cotton braid.

No.	Ft.	Size	Puncture Voltage	O.D.	List Price
2810	100	$10\frac{1}{32}$	9500	.225	$7.40
2812	100	$12\frac{1}{32}$	9500	.192	4.40
2814	100	$14\frac{1}{32}$	9500	.167	3.05
2816	100	$16\frac{1}{32}$	9500	.153	2.65
2818	100	$18\frac{1}{32}$	9500	.145	2.05

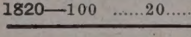
Shielded Varnished Cambric Wire



Used where an oil and water resistant wire with a shielded covering is required. Constructed of tinned stranded conductor with 2 layers of varnished cambric and a lacquered cotton braid with a tinned copper shield overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
1800	100	16	142	.145	$7.00
1818	100	18	102	.131	6.25
1820	100	20	100	.125	5.75

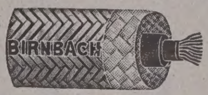
SHIELDED GRID LEAD WIRE



High insulation of of this wire will reduce the loss in shielded grid circuits. Constructed of tinned stranded conductor with a rubber insulation, waxed cotton braid with closely woven shield overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
818	100	$18\frac{1}{32}$	75	.180	$4.75
820	100	$20\frac{1}{32}$	70	.150	4.25

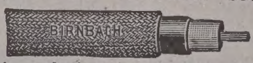
AUTO RADIO SHIELDED LEAD-IN



Consists of a stranded tipped copper conductor, insulated with rubber and filled with hemp and a tinned copper braid overall.

No.	Ft.	Capacity mmfd per ft.	O.D.	List Price
799	100	49	.275	$10.00
800	100	34	.500	14.00

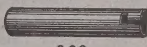
7 MM HIGH TENSION CABLE

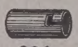


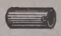
Useful in reducing interference from auto secondary circuits. Also used as photo electric cell leads and wherever a low loss shielded lead is required.

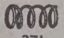
No.	List Price Per 100′
1600—7 MM. High Tension Cable	$6.50
781—7 MM. Shielded Secondary Wire	10.00

REPLACEMENT PARTS


368


369


370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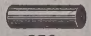
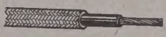

372

373

No.	Description	List Price per C
368	Female Sleeve for Fuse Connector	$5.50
369	Female Sleeve of Antenna Connector	4.40
370	Male Part of Antenna Connector	3.30
371	Spring for Antenna and Fuse Connector	1.10
372	Fibre Insulator for Fuse Holder	.80
373	Bakelite Eyelet Bushing	1.35

RAYON BRAID LACQUERED WIRE

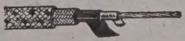


Constructed of stranded tinned copper conductor for easy soldering, with heavy wall of live rubber over which a rayon braid is woven. A high gloss lacquered finish over braid. Conductor consists of 16 strands of No. 30.

No.	Ft.	Puncture Voltage	Size	List Price
3425	25 Coil	9000	$18\frac{1}{32}$	$ .55
3450	50 Coil	9000	$18\frac{1}{32}$	1.05
3460	100 Coil	9000	$18\frac{1}{32}$	2.10
3600	500 Spool	9000	$18\frac{1}{32}$	10.00

Colors: Black, red, green, yellow, brown, blue

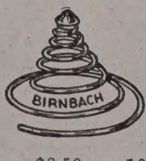
VARNISHED CAMBRIC WIRE



Widely used in automotive wiring because of oil and waterproof construction. Consists of tinned stranded conductor with two layers of varnished cambric over which a lacquered cotton braid is woven.

No.	Ft.	Size	Puncture Voltage	O.D.	List Price
3416	100	16	1000	.108	$4.50
3418	100	18	1000	.107	3.75
3420	100	20	1000	0.94	3.00

No. 340 Wheel Static Eliminator

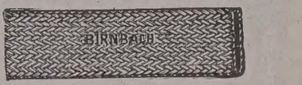


An effective means of reducing static created by the front wheels. Installation is made by placing the broad base of the spring against the hub cap and the cone point into the hole of the axle.

No. 340—Std. Pkg. 50

List Price..............................$8.50 per 100

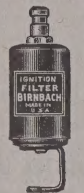
AUTO RADIO SHIELDING

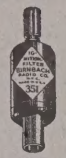


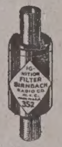
Used for shielding leads of interference creating circuits; and for bonding motor block and other parts of the automobile to the chassis.

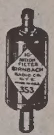
No.	Inside Dia.	List Price
TINNED		
858—50 ft. Spool	⅛"	$1.75
859—50 ft. Spool	$\frac{3}{16}$"	1.90
863—50 ft. Spool	¼"	2.35
864—50 ft. Spool	⅜"	2.75
865—50 ft. Spool	⅝"	5.50
857—50 ft. Spool	$\frac{25}{32}$"	8.80
BARE		
860—50 ft. Spool	¼"	2.00
861—50 ft. Spool	⅜"	2.30
862—50 ft. Spool	⅝"	5.00

AVAILABLE IN SPECIAL LENGTHS


IGNITION FILTER BIRNBACH MADE IN U.S.A.
350


351


352

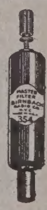

353

BIRNBACH IGNITION FILTERS

These Ignition Filters completely eliminate all ignition and high tension circuit interference, making clear auto radio reception a certainty. The only ignition filters having a copper wound inductance, which accounts for the low resistance of 120 ohms for the Ignition Filter. Less gasoline is consumed than when high resistance filters are used.

No.	List Price each
350—Ignition Filter—Bracket Type	$ .60
351—Ignition Filter—Cable Type	.60
352—Distributor Filter	.60
353—Ignition Filter—Screw Type	.60
359—Ignition Filter—Slip-on Type	.60

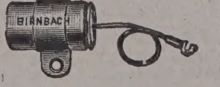
BIRNBACH MASTER FILTER



Eliminates all ignition interference and does away with the necessity of having a separate filter for each spark plug. Available in two types, namely, the Distributor type for easy insertion into distributor head, and the Cable type to be placed into the distributor lead where it is impossible to insert it into the distributor head.

No.	List Price each
354—Cable or Distributor Type	$2.50

AUTO NOISE FILTER

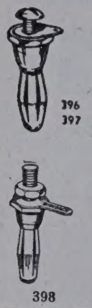


These are especially designed for the elimination of noise created by generator commutator, electrical windshield wiper, horn, and especially dome, tail, and stop light cables. Connections made by bolting down the flange of container to chassis. The long insulated lead with a convenient screw lug is connected to the source of interference.

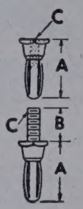
No.	List Price
355—Auto Noise Filter—½ Mfd.	ea. $ .55
356—Auto Noise Filter—1 Mfd.	ea. .65

BIRNBACH *Birnbach* PLUGS and JACKS

GIANT PLUGS

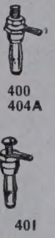


Used for heavy current, they are rated at 25 amps. The long life nickel silver alloy spring is secured over a pin preventing a collapse of the spring and also maintaining the full action of the spring when inserted into the jack. The No. 398A plug has a hole in the threaded shank to permit soldering to it. It is used extensively on diathermy electrode pad cables. Standard Package 25.

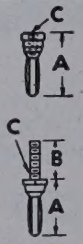


No.		A	B	C	List Price
396	Plug	1 5/32	—	10-32	each $0.25
397	Plug	1 7/16	—	¼-20	each .30
398	Plug	1 5/32	⅝	¼-28	each .25
398A	Plug	1 5/32	⅝	¼-28	each .25

BANANA PLUGS

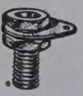


Large area of contact is one of the outstanding features of these jacks and plugs. The No. 400 series of packages have a nickel silver contact spring secured over a full length central pin, making these plugs non-collapsible and assuring a low resistance contact. Capacity 5 amperes. Standard Package 100.

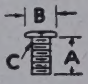


No.		A	B	C	List Price
400	Plug	¾	½	6-32	each $0.09
401	Plug	31/32	—	6-32	each .10
404A	Plug	¾	⅜	¼-28	each .14

No. 403 BANANA JACK

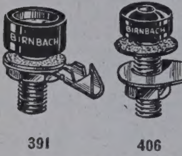


Accurately milled and has a precision reamed hole to help maintain the tight and smooth action of the plug. It is made of brass nickel plated and comes complete with nut and lug. Standard Package 100.



No.		A	B	C	List Price
403	Jack	½	⅜	¼-28	$0.09

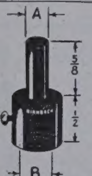
INSULATED BANANA JACKS



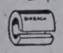
The No. 391 Jack is very popular with the electric therapeutic manufacturers. The ½" dia. insulated head admits all of the exposed metal part of the metal plug when inserted. Mounts in a 5/16" dia. hole on a panel up to ⅜" thick. The No. 406 Jack has a 7/16" dia. insulated top. It fits into a 5/16" dia. hole and takes up to a ⅜" panel. Both come complete with insulating shoulder washer, nut and lug.

	Std. Pkg.	List Price
391—Insulated Jack—red or black	50	$0.14
406—Insulated Jack—red, black, yellow, or green	50	.13

SHAFT COUPLINGS, REDUCERS AND EXTENDERS



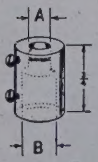
By the use of these units all ¼" and ⅜" dia. shafts and knobs can be assembled together. The insulated units are for use where electrical isolation is desired. Furnished complete with set screws shown. Be sure to specify whether Brass or Insulated is desired.



Brass No.	Insulated No.	Shaft A	Hole B	List Price
534	634	¼"	¼"	each $0.18
535	635	¼"	⅜"	each .18
536	636	⅜"	¼"	each .18

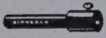
537—Reducer for ⅜" Dia. Hole to ¼" Dia. Shaft, each .12

COUPLINGS



Brass No.	Insulated No.	Shaft A	Hole B	List Price
531	631	¼"	¼"	each $0.18
532	632	¼"	⅜"	each .18
533	633	⅜"	⅜"	each .18

EXTENDERS



No.	Length	Hole I.D.	Shaft O.D.	List Price
538—Brass	1¾"	¼"	¼"	each $0.25
539—Insulated	1¾"	¼"	¼"	each .25

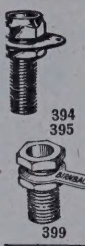
BRASS SHAFTING

No	List Price
540—¼" Dia. 6" Long	each $0.18
541—¼" Dia. 12" Long	each .36
542—⅜" Dia. 8" Long	each .36

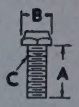
FIBRE SHAFTING

No	List Price
543—¼" Dia. 6" Long	each $0.25
544—¼" Dia. 12" Long	each .50
545—⅜" Dia. 8" Long	each .50

GIANT JACKS

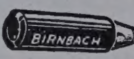


Milled with the central hole being reamed to size to insure a tight fit with all Giant Plugs. The No. 394 and No. 399A have a 10-32 thread tapped at the end permitting connection to be made. They are all made of brass and nickel-plated and come complete with nut and lug.



No.		Std. Pkg.	A	B	C	List Price
394	Jack	25	1 1/16"	½"	⅜-24	each $0.25
395	Jack	25	11/16"	½"	⅜-24	each .20
399	Jack	25	⅞"	⅝"	½-20	each .25
399A	Jack	25	1⅜"			each .30

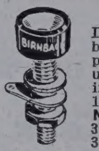
No. 392 INSULATED GIANT PLUG



Made so that no projecting edges are exposed, thereby protecting the user from unnecessary contact. Connection is made by soldering into the hole at the end of the threaded shank of the plug. Handle is 1⅞" long by ⅝" dia.; length overall 3". Colors: red or black.

No. 392—Insulated Giant Plug..........................List Price $0.45

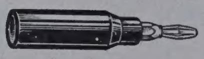
No. 393 INSULATED GIANT JACK



Designed to leave no metal part exposed on the panel. The ⅜-24 brass nickel plated sleeve has a 10-32 threaded hole at the end permitting a connection at the end of the jack or to the lug under the head. Either assembly available complete with nut, insulaing shoulder washer, lock-washer and lug. Length overall 1⅜". Colors: red or black.

No.	List Price
393 —Insulated Giant Jack under head lug	$0.40
393A—Insulated Giant Jack end lug	.40

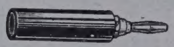
HARD RUBBER INSULATED GIANT PLUG



Especially designed for use with diathermy cables. It has a ⅝" dia. hole in the handle to take the largest cable. It is made of polished black hard rubber. The handle is 3" long by ⅞" dia. Overall length is 4 3/16".

No. 342—Hard Rubber Insulated Plug.....................List Price $1.25

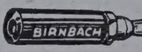
No. 341 Insulated Banana Plug



This plug consists of our No. 404A plug with a larger handle 1⅞" long by ½" dia. Used on a therapeutic apparatus and test equipment. Overall length 2⅝". Colors: red or black.

No. 341—Insulated Banana Plug..........................List Price $0.35

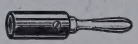
No. 404 Insulated Banana Plug



The plug is for experimental test leads because of its Scrulok solderless connection and the non-collapsible special alloy springs assembled on a pin preventing collapse of the plug spring. The handle is made of phenolic resin and is ⅜" by 1" long. Colors: red, black, yellow and green.

No. 404—Insulated Banana Plug.......Std. Pkg. 50.......List Price $0.18

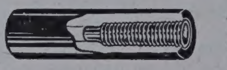
No. 604 BANANA PLUG



Made of solid brass nickel-plated, with the end being slotted. The cast phenolic handle is 1" long by ⅜" dia, and is held on by the screw that secures the wire to the plug. Colors: red, black, yellow and green.

No. 604—Plug...............Std. Pkg. 50...............List Price $0.14

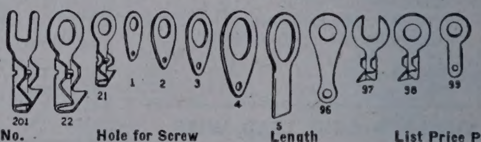
No. 605 HANDLE JACK



Consists of a banana jack inside an insulated sleeve. Connection is made by soldering to the end of the jack. Handle is made of cast phenolic resin ⅜" dia. by 1¼" long. Colors: red, black, yellow and green.

No. 605—Handle Jack............Std. Pkg. 50............List Price $0.18

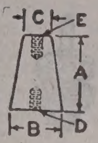
TINNED LUGS



No.	Hole for Screw	Length	List Price Per M
1	6	9/16	$ 3.25
2	10	⅝	3.25
3	¼	⅝	3.25
4	⅜	⅞	19.25
5	½	1 3/16	24.50
21	10	1 3/16	6.00
22	¼	1 3/32	15.00
201	8	1 3/16	6.00
96	6-8-10	⅞	5.00
97	8	⅝	5.00
98	6-8	11/16	6.00
99	4-6-8	11/16	6.00

Birnbach INSULATORS

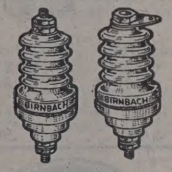
CONE STANDOFF INSULATORS

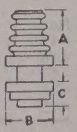


Made of low absorption high tensile strength porcelain with a smooth glaze. All heights except the No. 430 are available with a Jack or a threaded hole top. Range of sizes are adequate for all needs. They are available only in a white glaze and come complete with screws, metal and cork washers.

No.	Height A	Std. Pkg.	B	C	Threaded Holes D	E	Mounting Hole	List Price each
430	⅝"	100	⅝"	7/16"	6-32	6-32	5/32"	$.12
431	1"	50	11/16"	½"	8-32	8-32	3/16"	.15
431J	1"	50	11/16"	½"	8-32	No. 430 Jack	3/16"	.21
432	1½"	50	⅞"	⅝"	10-32	10-32	7/32"	.19
432J	1½"	50	⅞"	⅝"	10-32	No. 403 Jack	7/32"	.24
433	2¾"	25	1¼"	¾"	¼-20	¼-20	9/32"	.30
433J	2¾"	25	1¼"	¾"	¼-20	No. 395 Jack	9/32"	.45

CORRUGATED FEEDTHRU INSULATORS





The six new corrugated type feedthru insulators have more than twice the leakage path of the straight type because of increased surface of the corrugations and recommends itself where a straight side insulator of equal height is not satisfactory because of its shorter leakage path. Brass nickel-plated hardware and cork mounting washers supplied.

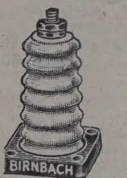
No.	Height A	Std. Pkg.	B	C	Mounting Hole	Hardware	List Price
479	1⅜"	25	1¼"	11/16"	9/16"	10-32	ea. $ .38
479J	1⅜"	25	1¼"	11/16"	9/16"	No. 403 Jack	ea. .44
4276	2¾"	10	1⅝"	1"	¾"	¼-20	ea. .65
4276J	2¾"	10	1⅝"	1"	¾"	No. 394 Jack	ea. .80
4452	4½"	5	2⅛"	1½"	1"	¼-20	ea. 1.00
4452J	4½"	5	2⅛"	1½"	1"	No. 394 Jack	ea. 1,20

HIGH VOLTAGE FEEDTHRU INSULATOR

This insulator has been designed to meet the demand for an insulator having high dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve taper from a base dia. of 1 3/16" where the electric stress is greatest.

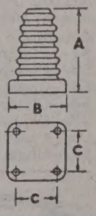
Height 1⅝"....Base Dia. 2"....Mounting Hole 1¼"... Hardware ¼-20
No. 4233 List Price $0.55

METAL BASE INSULATORS



4451, 4176

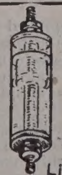
867



Designed to replace conventional porcelain insulators where failure of the base is due to cracking when fastened down. Extremely long leakage paths due to the corrugated surface is one of the important characteristics. They are made from high tensile strength low absorption porcelain smoothly glazed all over. Supplied with nickel-plated brass screws and nuts and cadmium plated drawn steel bases.

Cat. No.	Height A	Std. Pkg.	Base Dimen. B	C	Mounting Screw D	Hardware	List Price
867	1⅜"	25	1⅞" x 1 5/16"	1½"	2 No. 8	10-32	ea. $0.22
867J	1⅜"	25	1⅞" x 1 5/16"	1½"	2 No. 8	No. 403 Jack	ea. .27
4176	2¾"	10	1¾" x 1¾"	1⅜"	4 No. 10	¼-20	ea. .38
4176J	2¾"	10	1¾" x 1¾"	1⅜"	4 No. 10	No. 395 Jack	ea. .50
4451	4½"	5	2¼" x 2¼"	1¾"	4 No. 10	¼-20	ea. .55
4451J	4½"	5	2¼" x 2¼"	1¾"	4 No. 10	No. 395 Jack	ea. .75

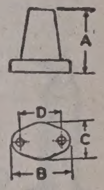
"LUCITE" FEEDTHRU INSULATORS



These feedthru insulators are ideal for bringing high frequency leads thru a panel. They are made of genuine Dupont Lucite. Because of its low loss at high frequency, it is well adapted to insulated elements of high frequency circuits. The ½" dia. insulators have brass nickel plated 6-32 hardware and the ¾" have 10-32 hardware.

No.	Height above Panel	Insulator Dia.	Mtg. Hole	Bottom Height	List Price
377	¼"	½"	5/16"	¼"	$ .22
378	½"	½"	5/16"	¼"	.28
379	1"	½"	5/16"	¼"	.33
475	1½"	¾"	7/16"	½"	.60
476	2"	¾"	7/16"	½"	.70

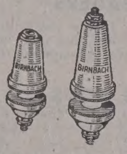
STANDOFF INSULATORS

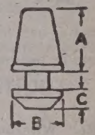


The sizes range from ⅝" to 4½" high in five properly graduated heights. Made of highly vitrified low absorption glazed porcelain. No washers are necessary for mounting as the mounting surface is ground flat; but for the No. 405 and No. 966 Standoff insulators, it is advisable to use cork washers which are available as they will permit mounting securely without breakage. All brass nickel-plated hardware is supplied. Available in white or brown glaze.

No.	Height A	Std. Pkg.	B	C	D	Mounting Holes	Hardware	List Price each
405	⅝"	100	1"	17/32"	11/16"	5/32"	6-32	$0.07
965	1"	50	1¼"	¾"	13/16"	5/32"	8-32	.09
966	1"	50	1⅜"	⅞"	1"	5/32"	8-32	.09
966J	1"	50	1⅜"	⅞"	1"	5/16"	No. 403 Jack	.12
866	1½"	25	1¾"	1⅛"	1¼"	5/32"	10-32	.13
866J	1½"	25	1¾"	1⅛"	1¼"	5/16"	No. 403 Jack	.17
866SJ	1½"	10	1¾"	1⅛"	1¼"	5/32"	No. 395 Jack	.40
4275	2¾"	10	2¾"	2"	2⅛"	¼"	¼-20	.35
4275J	2¾"	10	2¾"	2"	2⅛"	¼"	No. 399 Jack	.60
4450	4½"	5	3⅝"	2½"	2⅝"	9/32"	¼-20	.65
4450J	4½"	5	3⅝"	2½"	2⅝"	9/32"	No. 399 Jack	.90

FEEDTHRU INSULATORS





Made of highly vitrified, low absorption porcelain smoothly glazed to prevent accumulation of dust or dirt. Maximum strength is achieved by the proper proportions and flat mounting surfaces. Long insulating sleeves on the lower part of the insulator contribute much to their performance on high voltages. Brass nickel-plated hardware.

No.	Height A	Std. Pkg.	B	C	Mounting Hole	Hardware	List Price
458	⅝"	50	11/16"	¼"	5/16"	6-32	ea. $ .14
478	1"	25	13/16"	5/16"	7/16"	10-32	ea. .22
478J	1"	25	13/16"	5/16"	7/16"	No. 403 Jack	ea. .28
4125	1¼"	25	⅞"	⅜"	7/16"	10-32	ea. .28
4125J	1¼"	25	⅞"	⅜"	7/16"	No. 403 Jack	ea. .33
4234	2¾"	10	2"	1"	¾"	¼-20	ea. .60
4175	2¾"	10	1¼"	¾"	⅝"	¼-20	ea. .55
4175J	2¾"	10	1¼"	¾"	⅝"	No. 394 Jack	ea. .85

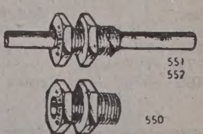
BEE-HIVE STANDOFF

BIRNBACH No 766

Base measures 2" dia. with 3 holes on a 1⅝" circle, for No. 6 screws. Supplied complete with 12-24 nickel-plated brass screw and nuts. The No. 766J has a No. 403 Jack. Available white or brown glaze.

No.	Hardware	Std. Pkg.	List Price
766—Standoff Insulator	12-24 Screw	10	$0.17
766J—Jack Type	No. 403 Jack	10	.22

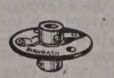
FRONT PANEL BEARING



The No. 550 Front Panel Bearing is cadmium plated brass for panels up to ⅜" in thickness and for ¼" dia. shafts. The No. 551 and No. 552 are complete assemblies of the No. 550 and ¼ dia. brass shaft cadmium plated.

Cat. No.	List Price
550—Front Panel Bearing	each $ .18
551—Front Panel Bearing, ¼ shaft, 3" long	each .36
552—Front Panel Bearing, ¼ shaft, 6" long	each .50

FLEXIBLE COUPLINGS

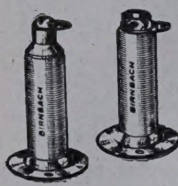


These flexible couplings cover all needs of the constructor. Tandem operation of two or more units is possible without having the shafts in exact alignment. Flexibility without back-lash is obtained by the cadmium plated phosphor bronze springs, which are rigidly riveted to the insulation. All units fit ¼" dia. shafts.

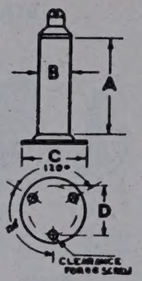
No.	Dia.	Insulation	List Price
360	1¼	Fibre	each $ .35
361	1¼	Bakelite	each .50
362	1 1/16	Steatite	each .60

Birnbach INSULATORS

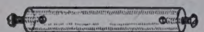
STEATITE PILLARS



These (steatite) pillar insulators have great tensile strength with extremely low losses at very high frequencies and are glazed on the outside to decrease surface leakage.. They are tapped on both ends and are supplied complete with nickel-plated mounting base and top hardware.



No.	Height A	Std. Pkg.	B	Hardware	Base Dia. C	D	List Price each
450	1″	10	½″	6-32	1⅛″	⅞″	$ .35
450J	1″	10	½″	No. 403 Jack	1⅛″	⅞″	.40
451	1½″	10	½″	6-32	1⅛″	⅞″	.40
451J	1½″	10	½″	No. 403 Jack	1⅛″	⅞″	.45
452	2½″	10	½″	6-32	1⅛″	⅞″	.45
452J	2½″	10	½″	No. 403 Jack	1⅛″	⅞″	.55
453	2½″	5	¾″	¼-20	1 9/16″	1 3/16″	.75
453J	2½″	5	¾″	No. 395 Jack	1 9/16″	1 3/16″	.90
454	4″	5	¾″	¼-20	1 9/16″	1 3/16″	1.00
454J	4″	5	¾″	No. 395 Jack	1 9/16″	1 3/16″	1.10



LUCITE SPREADERS

They are made of Dupont Lucite rod which has a very low loss at radio frequencies. It is water clear and has very low water absorption. The holes are drilled to take a No. 12 wire. A screw at the end of the spreader locks the wire in position.

LUCITE SPREADERS

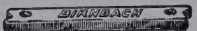
No.	Wire-Spacing	Std. Pkg.	List Price Each
436	2″	25	$0.28
437	4″	25	.33
438	6″	25	.40

LUCITE RODS

No.	Dia.	List Price per Ft.
455	¼″	$0.50
459	⅜″	.60
460	½″	1.05
461	¾″	1.80

Available in lengths up to 48 inches

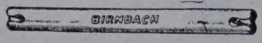
FEEDER SPREADERS



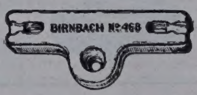
They have a cross section of ⅜″ x ½. Made of highly vitrified, low absorption, high tensile strength porcelain with a smooth while glaze overall.

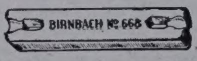
No.	Std. Pkg.	List Price
462—Spreader, 2″ long	25	each $0.14
464—Spreader, 4″ long	25	each .19
469—Spreader, 6″ long	25	each .24

ANTENNA INSULATORS



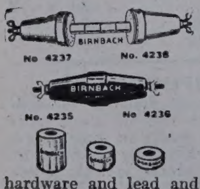
These Antenna Insulators have exceptional low moisture absorption. The leakage path is long and the cross section is small and is consistent with the strength required. A smooth white glaze overall prevents the accumulation of dirt or ice.





No.	Std. Pkg.	List Price
668—4¼″ long	25	each $ .17
470—7″ long	10	each .68
471—12″ long	5	each .85
468—4½″ long Center Insulator	10	each .30

LEADIN INSULATORS

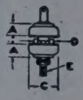


Each cone is 2¾″ high and made of low absorption, highly vitrified glazed porcelain. The Nos. 4237 and 4238 Leadin Insulators have sufficient insulating bushings to insulate the rod that goes through the wall. In addition, 2 bushings are included, ¼″ and ½″ long, allowing complete insulation of the threaded rod of any length in multiples of ¼″. They come complete with brass nickel-plated hardware and lead and cork washers to permit a water-tight seal.

No.	Description	List Price
4235	10″ Rod	$1.15
4236	15″ Rod	1.30
4237	10″ Rod with bushings	1.50
4238	15″ Rod with bushings	1.90

STEATITE BUTTON

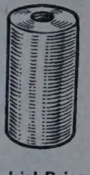
These specially designed steatite buttons are intended for use to simplify wiring and to be used as a binding post or a binding post insulator, or as a standoff insulator. Attention is called to the uniqueness of the design which prevents either section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.



A 5/16″ ....B ½″............C ¾″............D ½″............E 6-32

No. 457 .... **Std. Pkg. 25** .... **List Price $ .25**

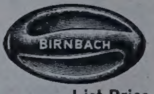
STEATITE PILLARS
(Without Hardware)



In many constructions, these unmounted threaded steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting surfaces. They are made of glazed Steatite with threaded holes on both sides.

No.	Height	Dia.	Threaded Hole	List Price
445	1″	½″	6-32	$0.25
446	1½″	½″	6-32	.30
447	2½″	½″	6-32	.35
448	2½″	¾″	¼-20	.55
449	4″	¾″	¼-20	.90

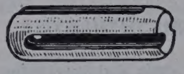
AIRPLANE INSULATORS



Used on mobile antenna installations, particularly on aircraft, as they are shaped for the least air resistance. They are made of white glazed low absorption porcelain.

No. Length	Std. Pkg.	List Price
473—2″	100	each $0.08
474—1½″	100	each .07

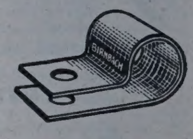
STEATITE AIRPLANE INSULATORS



A very small compression type insulator with small wind resistance. It is 1½″ long and ½″ dia.

No. 463—Std. Pkg. 25, **List Price $.30 ea.**

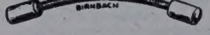
TUBE CLAMPS



These tube clips will be found extremely desirable when mounting resonant lines or elements of directive beam antennas. They are made of hard drawn aluminum and are available for 5/16″, ⅜″, ½″, ¾″ and 1″ dia. tubes. The 5/16″, ⅜″, and ½″ have a clearance hole for No. 10 screw and the ¾″ and 1″ dia. clamps have holes for ¼″ bolts.

Cat. No	To Fit Tube	List Price
51—Clamp	¼″ Dia.	each $0.15
52—Clamp	5/16″ Dia.	each .15
53—Clamp	⅜″ Dia.	each .15
54—Clamp	½″ Dia.	each .15
55—Clamp	¾″ Dia.	each .25
56—Clamp	1″ Dia.	each .25
57—Clamp	⅞″ Dia.	each .30

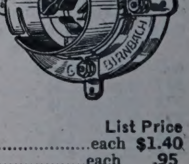
FLEXIBLE SHAFTS



At times there is difficulty getting the controls to the proper position on the panel. With couplings and these flexible shafts, locations can be made with ease on an offset and angles up to 90 degrees. The flexible shafts are made of phosphor bronze and fitted into ¼″ dia. hubs.

Cat. No.	List Price
553—Flexible Shaft, 3″ long	each $0.45
554—Flexible Shaft, 6″ long	each .60

TRANSMITTING TUBE SOCKETS



Improved design and additional features of the Birnbach transmitting sockets has increased their popularity and are accepted as standard. The 50 watt socket has extra heavy side-wiping phosphor bronze contact spring with the filament spring having a double contact to safely carry the heavy current. The tube base is supported by the highly polished nickel-plated brass shell set in a highly vitrified low absorption porcelain base which is ground flat to prevent breakage. All brass nickel-plated screw and milled nuts are used.

Cat. No.	List Price
434—50 Watt Socket	each $1.40
435—10 Watt Socket	each .95

Nº14
CORWICO
NOISE-MASTER
• ALL-WAVE ANTENNA •

NOISE·MASTER
• ALL-WAVE ANTENNA •

FOR EVERY SET AND LOCATION

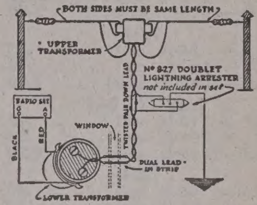
Eliminates "man-made" static on broadcast as well as short wave bands.

There is a correct "NOISE-MASTER" antenna for every set and location. Radio reception is enjoyed to its fullest extent by installing one of these competent units. "NOISE-MASTER" is scientifically engineered to filter out the innumerable nuisance noises caused by electrical devices . . . assuring perfect reception over broadcast as well as short-wave frequency.

No. 14 "NOISE-MASTER"

$6.75 LIST. Code: CORAL, Wt. 2 lbs. 12 oz.

Recommended where there are sufficient "man-made" noises to interfere with radio reception over both the short-wave and broadcast bands. Licensed under Amy, Aceves & King patent No. Re. 19854. A highly engineered product which makes one aerial act electrically as two perfect antennas. Two or more sets (preferably not more than 4) can be operated at the same time on the same antenna by using an additional lower transformer unit on each additional set. Assures highest efficiency over the entire receiving band.


BOTH SIDES MUST BE SAME LENGTH
• UPPER TRANSFORMER
Nº 827 DOUBLET LIGHTNING ARRESTER
not included in set
TWISTED PAIR DOWN LEAD
RADIO SET
G
A
WINDOW
BLACK
RED
DUAL LEAD-IN STRIP
LOWER TRANSFORMER

No.· 14

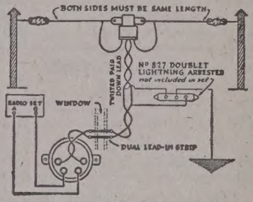
CONTENTS:

2—30 foot coils of stranded copper antenna wire
1 upper transformer assembly
2 glass insulators
75 feet twisted pair down lead
3—6″ screw eye insulators
1 No. 755 dual lead-in strip
1 lower transformer unit
1—4″ porcelain tube
1 instruction sheet

No. 14a (Code: CUTAT)—Kit containing upper and lower transformers only........................List $5.00
No. 127 (Code: CYTAT)—Extra lower transformers, each........................List 2.25
No. 14b (Code: CATAW)—"EUROPEAN NOISE-MASTER." Same as No. 14 except that transformers are designed to operate on 15 to 2100 meters ....List 7.00
No. 128 (Code CYTAR)—European type lower transformer........................List 2.50

No. 19 "NOISE-MASTER" . . $4.95 LIST. Code: CYRAX. Wt. 3 lbs. 13 ozs.

This antenna is a deluxe doublet employing an Amy, Aceves & King licensed Self-Selecting matching transformer and a junction box in the antenna line. Easy to install and factory fabricated. When properly erected it assures excellent all-wave reception.


BOTH SIDES MUST BE SAME LENGTH
Nº 827 DOUBLET LIGHTNING ARRESTER
not included in set
TWISTED PAIR DOWN LEAD
RADIO SET
A
G
WINDOW
DUAL LEAD-IN STRIP

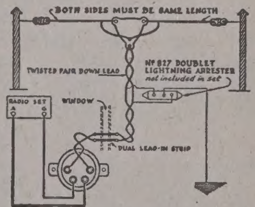
No. 19

CONTENTS:

2—30 ft. coils 7/23 aerial wire
2—No. 1 porcelain insulators
1 junction-box assembly
75 ft. No. 123 twisted pair down lead
3—6″ screw eye insulators
1 No. 755 dual lead-in strip
1—4″ porcelain tube
1 No. 129 Self-Selecting transformer
1 instruction sheet.

No. 18 "NOISE-MASTER" . . $3.75 LIST. Code: CIRAM. Wt. 3 lbs. 12 ozs.

A licensed Amy, Aceves & King antenna at a popular price! Simple doublet type, featuring a high-grade Self-Selecting licensed matching transformer. Easy to install and completely factory fabricated. Recommended for locations where "man-made" static interferes with short-wave but not with ordinary broadcast reception.


BOTH SIDES MUST BE SAME LENGTH
Nº 827 DOUBLET LIGHTNING ARRESTER
not included in set
TWISTED PAIR DOWN LEAD
RADIO SET
A
G
WINDOW
DUAL LEAD-IN STRIP

No. 18

CONTENTS:

2—30 ft. coils 7/24 "TRI-COR" all-wave aerial wire.
2 No. 2 glass insulators
1 triangular porcelain center insulator
50 ft. No. 117 stranded twisted "TU KOLOR" down lead (connected at our factory to the two coils of aerial wire at center insulator)
10 ft. coil stranded twisted pair brown inside lead-in wire
3—6″ screw eye insulators
1 No. 755 dual lead-in strip
1—4″ porcelain tube
1 No. 129 Self-Selecting transformer
1 instruction sheet

BROADCAST ANTENNA KITS

These are popular priced broadcast kits of the "L" type. Each kit contains the necessary parts for the installation of the complete antenna. They are furnished in an attractive two-color box.

Kit No. 3
THE MAJOR
Code: CYTAM. Wt. 3 lbs.

CONTENTS:

75 ft. No. 15 stranded aerial wire; 35 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 glass insulators; 2 glazed porcelain nail knobs; 1—3″ screw eye stand-off insulator; 1 No. 760 high gloss lead-in strip; 1 No. 710 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 6 insulated staples; 2 wood screws.

$1.55 List

Kit No. 4
THE CAPTAIN
Code: CYTON. Wt. 2½ lbs.

CONTENTS:

75 ft. 7/24 stranded aerial wire; 25 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 glazed porcelain nail knobs; 1 No. 760 high gloss lead-in strip; 1 No. 712 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 2 wood screws.

$1.25 List

Kit No. 5
THE LIEUTENANT
Code: CYTAO. Wt. 2 lbs.

CONTENTS:

75 ft. 7/27 stranded aerial wire; 25 ft. rubber-covered lead in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 nail knobs; 1 No. 707 strap type ground clamp; 1 No. 770 lead-in strip; 2 wood screws.

95c List

CORWICO
ANTEN
KIT

CORWICO RADIO WIRE *products*

AERIAL WIRE

The most careful attention has been given to those properties which make CORWICO aerial wire the most suitable for radio reception; viz., large surface area, high electric conductivity, and tensile strength.

STRANDED BARE WIRE

No.		List Price
	7/20	
64	100-ft. coil	$1.38
	7/22	
40A	75-ft. coil	.63
40	100-ft. coil	.84
40B	1000-ft. spool	8.40
	7/22 (14 B&S)	
51A	75-ft. coil	.59
51	100-ft. coil	.78
51B	1000-ft. spool	7.80
	7/23	
41A	75-ft. coil	.53
41	100-ft. coil	.70
41B	1000-ft. spool	7.00
	7/23 (15 B&S)	
31A	75-ft. coil	.49
31	100-ft. coil	.62
31B	1000-ft. spool	6.20
	7/24	
42A	75-ft. coil	.44
42	100-ft. coil	.57
42B	1000-ft. spool	5.70
	7/24 (16 B&S)	
50A	75-ft. coil	.41
50	100-ft. coil	.54
50B	1000-ft. spool	5.40
	7/26	
30A	75-ft. coil	.30
30	100-ft. coil	.39
30B	1000-ft. spool	3.90

SOLID BARE WIRE

No.		List Price
	No. 14	
57	100-ft. coil	.67
57B	1000-ft. spool	6.70
	No. 15	
55	100-ft. coil	.54

STRANDED TINNED WIRE

No.		List Price
	7/22	
45A	75-ft. coil	.73
45	100-ft. coil	.95
45B	1000-ft. spool	9.50

No.	(Tinned, Continued)	List Price
	7/22 (14 B&S)	
53A	75-ft. coil	.67
53	100-ft. coil	.88
53B	1000-ft. spool	8.80
	7/23 (15 B&S)	
35A	75-ft. coil	.58
35	100-ft. coil	.75
35B	1000-ft. spool	7.50
	7/24 (16 B&S)	
52A	75-ft. coil	.48
52	100-ft. coil	.64
52B	1000-ft. spool	6.40

STRANDED ENAMEL WIRE

No.		List Price
	7/20	
73	100-ft. coil	2.04
	7/22	
37A	75-ft. coil	.80
37	100-ft. coil	1.10
37B	1000-ft. spool	11.00
	7/22 (14 B&S)	
56A	75-ft. coil	.74
56	100-ft. coil	.96
56B	1000-ft. spool	9.60
	7/23 (15 B&S)	
33A	75-ft. coil	.63
33	100-ft. coil	.83
33B	1000-ft. spool	8.30
	7/24 (16 B&S)	
54A	75-ft. coil	.54
54	100-ft. coil	.70
54B	1000-ft. spool	7.00

SOLID ENAMEL WIRE

No.		List Price
	No. 12	
61	100-ft. coil	1.28
61F	150-ft. coil	1.93
61G	200-ft. coil	2.58
61B	1000-ft. spool	12.80
	No. 14	
60	100-ft. coil	.83
60B	1000-ft. spool	8.30
	No. 15	
36	100-ft. coil	.70

LEAD-IN WIRE

STRANDED

No.	Ft.	Size	List Price
300	50 coil	18-1/32"	.43
301	100 spool	18-1/32"	.85
302	500 spool	18-1/32"	4.00
303	1000 spool	18-1/32"	7.80
310	50 coil	16-1/32"	.56
311	250 spool	16-1/32"	2.80
312	500 spool	16-1/32	5.40
313	1000 spool	16-1/32"	10.50

SOLID

No.	Ft.	Size	List Price
320	25 coil	18-3/64"	.20
321	50 coil	18-3/64"	.38
322	500 spool	18-3/64"	3.60
323	1000 spool	18-3/64"	7.00
330	25 coil	20-3/64"	.17
331	50 coil	20-3/64"	.33
332	500 spool	20-3/64"	3.10
333	1000 spool	20-3/64"	5.90

COLORED RUBBER LEAD-IN AND GROUND WIRE

Colors: Red, Black, Green, White

No.		List Price, Each
215	No. 16 str., 25-ft.	.35
216	No. 16 str., 50-ft.	.68
217	No. 16 str., 100-ft	1.25
218	No. 16 str., 1000-ft	12.50

TWISTED PAIR DOWNLEADS

No. 122—List Mft. $18.00

This is a popular-priced twisted pair down lead consisting of two conductors, each No. 22 stranded copper, 1/32" and rubber-covered (one black, one red), twisted and covered with overall black weatherproof braid.

No. 116—List Mft. $35.00

This is a heavy twisted pair down lead especially designed for use in doublet type antennas. Each conductor consists of No. 16 (26/30) stranded tinned copper wire with a 1/32" rubber covering and a single white weatherproof braid. The two conductors are then twisted together.

No. 120—List Mft. $20.00

This is a cheaper twisted pair down lead consisting of two conductors each No. 20 (10/30) stranded copper, 1/32" rubber covered twisted and covered with an overall black weatherproof braid.

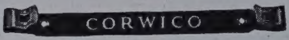
ANTENNA ACCESSORIES

LIGHTNING ARRESTERS

LIGHTNING ARRESTER

Extreme care has been given to the design of these arresters to produce low-priced products of greatest possible value.

No.		List Price
No. 825	2 Pole	25c
No. 827	3 Pole (Doublet)	35c



LEAD-IN STRIPS

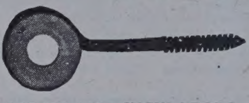
All Strips 12" Long—Packed 50 to a Carton

No.		List per C
760	½" Zinc, High Gloss, Soldered Terminals	$5.85
761	½" Zinc, High Gloss, not Soldered Terminals	5.35
770	7/16" Zinc, Dull Finish, not Soldered Terminals	4.50
771	7/16" Zinc, Dull Finish, Soldered Terminals	5.00
750	½" Copper, High Gloss, Soldered Terminals	6.75
751	½" Copper, High Gloss, not Soldered Terminals	6.25

SCREW END LEAD-IN STRIPS

Equipped with screw-type terminals, insuring positive and lasting contact. Length 12"—Packed 50 to a Carton.

No.		
No. 780	Copper, High Gloss	List per C $7.00
No. 781	Zinc, High Gloss	List per C 6.40
No. 755	Doublet, Copper, High Gloss	List per C 18.00



SCREW EYE INSULATORS

Packed 50 to a Carton

No.		List per C
795	Porcelain Eye, 3"	$3.90
796	Porcelain Eye, 6"	4 50
797	Bakelite Eye, 3"	4 70
798	Bakelite Eye, 6"	5.70

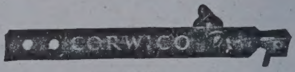
BATTERY CLIPS

Spring jaw clips for instant connection to wet or dry batteries. Packed 30 to carton.

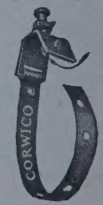
No.		List per C
1	50 amp	$15.00
2	25 amp	8.75
3	10 amp	5.00
4	5 amp	5.00

GROUND CLAMPS

710



707



700

We manufacture a complete line of ground clamps of all types, for every purpose.

"C" TYPE GROUND CLAMP.

Hardened steel point, assures positive ground connection. Opening 1¾". Packed 50 to a carton.

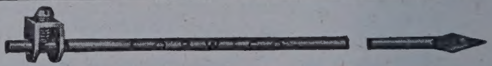
No. 710—Cadmium Plated .... List per C $6.00
No. 713—Plain Finish .... List per C 4.80

SADDLE TYPE GROUND CLAMP. Hardened steel point assures positive contact. Easily applied to any pipe or rod from ½" to 2½" in diameter. Cadmium Plated. Packed 50 to a carton.

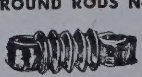
No. 700—Saddle Type .... List per C $5.50

STRAP TYPE GROUND CLAMP. Packed 50 to a carton. The No. 708 Clamps have a copper finish.

No. 707—Copper Strap Clamp .... List per C $4.25
No. 708—Steel Strap Clamp .... List per C 3.80



GROUND RODS No. 785 Made of ⅜" coppered steel, 4 ft. long. Has adjustable saddle with pointed screw for positive ground connection. Packed—12. Weight 20 lbs. Each 50c



GLASS INSULATORS

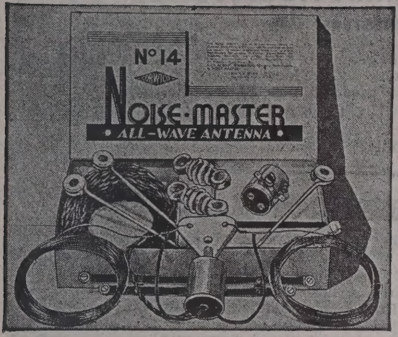
Substantially made of non-brittle crystal glass.

No. 1—3" length, 100 per carton .... List per C $6.00
No. 2—3¾" length, 25 per carton .... List per C 6.50

PORCELAIN INSULATORS

Made of high grade glazed porcelain for long and short wave antennas.

No. 790 .... List per C $3.90


N°14
CORWICO
NOISE-MASTER
• ALL-WAVE ANTENNA •

NOISE-MASTER
• ALL-WAVE ANTENNA •

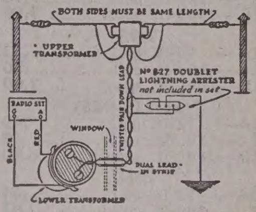
FOR EVERY SET AND LOCATION

Eliminates "man-made" static on broadcast as well as short wave bands.

There is a correct "NOISE-MASTER" antenna for every set and location. Radio reception is enjoyed to its fullest extent by installing one of these competent units. "NOISE-MASTER" is scientifically engineered to filter out the innumerable nuisance noises caused by electrical devices . . . assuring perfect reception over broadcast as well as short-wave frequency.

No. 14 "NOISE-MASTER"

$6.75 LIST. Code: CORAL, Wt. 2 lbs. 12 oz.


BOTH SIDES MUST BE SAME LENGTH
UPPER TRANSFORMER
TWISTED PAIR DOWN LEAD
Nº 827 DOUBLET LIGHTNING ARRESTER not included in set
RADIO SET
G
A
WINDOW
BLACK
RED
DUAL LEAD-IN STRIP
LOWER TRANSFORMER

No. 14

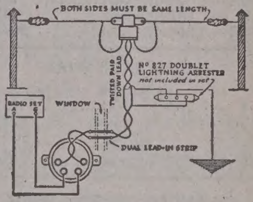
Recommended where there are sufficient "man-made" noises to interfere with radio reception over both the short-wave and broadcast bands. Licensed under Amy, Aceves & King patent No. Re. 19854. A highly engineered product which makes one aerial act electrically as two perfect antennas. Two or more sets (preferably not more than 4) can be operated at the same time on the same antenna by using an additional lower transformer unit on each additional set. Assures highest efficiency over the entire receiving band.

CONTENTS:

2—30 foot coils of stranded copper antenna wire
1 upper transformer assembly
2 glass insulators
75 feet twisted pair down lead
3—6" screw eye insulators
1 No. 755 dual lead-in strip
1 lower transformer unit
1—4" porcelain tube
1 instruction sheet

No. 14a (Code: CUTAT)—Kit containing upper and lower transformers only	List $5.00
No. 127 (Code: CYTAT)—Extra lower transformers, each	List 2.25
No. 14b (Code: CATAW)—"EUROPEAN NOISE-MASTER." Same as No. 14 except that transformers are designed to operate on 15 to 2100 meters	List 7.00
No. 128 (Code CYTAR)—European type lower transformer	List 2.50

No. 19 "NOISE-MASTER" . . $4.95 LIST. Code: CYRAX. Wt. 3 lbs. 13 ozs.


BOTH SIDES MUST BE SAME LENGTH
TWISTED PAIR DOWN LEAD
Nº 827 DOUBLET LIGHTNING ARRESTER not included in set
RADIO SET
A
G
WINDOW
DUAL LEAD-IN STRIP

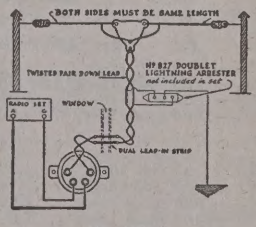
No. 19

This antenna is a deluxe doublet employing an Amy, Aceves & King licensed Self-Selecting matching transformer and a junction box in the antenna line. Easy to install and factory fabricated. When properly erected it assures excellent all-wave reception.

CONTENTS:

2—30 ft. coils 7/23 aerial wire
2—No. 1 porcelain insulators
1 junction-box assembly
75 ft. No. 123 twisted pair down lead
3—6" screw eye insulators
1 No. 755 dual lead-in strip
1—4" porcelain tube
1 No. 129 Self-Selecting transformer
1 instruction sheet.

No. 18 "NOISE-MASTER" . . $3.75 LIST. Code: CIRAM. Wt. 3 lbs. 12 ozs.


BOTH SIDES MUST BE SAME LENGTH
TWISTED PAIR DOWN LEAD
Nº 827 DOUBLET LIGHTNING ARRESTER not included in set
RADIO SET
WINDOW
DUAL LEAD-IN STRIP

No. 18

A licensed Amy, Aceves & King antenna at a popular price! Simple doublet type, featuring a high-grade Self-Selecting licensed matching transformer. Easy to install and completely factory fabricated. Recommended for locations where "man-made" static interferes with short-wave but not with ordinary broadcast reception.

CONTENTS:

2—30 ft. coils 7/24 "TRI-COR" all-wave aerial wire.
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1 instruction sheet

BROADCAST ANTENNA KITS

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Kit No. 3
THE MAJOR

Code: CYTAM. Wt. 3 lbs.

CONTENTS:

75 ft. No. 15 stranded aerial wire; 35 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 glass insulators; 2 glazed porcelain nail knobs; 1—3" screw eye stand-off insulator; 1 No. 760 high gloss lead-in strip; 1 No. 710 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 6 insulated staples; 2 wood screws.

$1.55 List

Kit No. 4
THE CAPTAIN

Code: CYTON. Wt. 2½ lbs.

CONTENTS:

75 ft. 7/24 stranded aerial wire; 25 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 glazed porcelain nail knobs; 1 No. 760 high gloss lead-in strip; 1 No. 712 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 2 wood screws.

$1.25 List

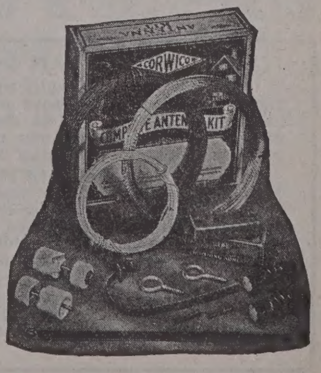
Kit No. 5
THE LIEUTENANT

Code: CYTAO. Wt. 2 lbs.

CONTENTS:

75 ft. 7/27 stranded aerial wire; 25 ft. rubber-covered lead in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 nail knobs; 1 No. 707 strap type ground clamp; 1 No. 770 lead-in strip; 2 wood screws.

95c List


CORWICO
COMPLETE ANTENNA KIT

CORWICO RADIO WIRE *products*

AERIAL WIRE

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STRANDED BARE WIRE

No.		List Price
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51B	1000-ft. spool	7.80
7/23		
41A	75-ft. coil	.53
41	100-ft. coil	.70
41B	1000-ft. spool	7.00
7/23 (15 B&S)		
31A	75-ft. coil	.49
31	100-ft. coil	.62
31B	1000-ft. spool	6.20
7/24		
42A	75-ft. coil	.44
42	100-ft. coil	.57
42B	1000-ft. spool	5.70
7/24 (16 B&S)		
50A	75-ft. coil	.41
50	100-ft. coil	.54
50B	1000-ft. spool	5.40
7/26		
30A	75-ft. coil	.30
30	100-ft. coil	.39
30B	1000-ft. spool	3.90

SOLID BARE WIRE

No. 14		
57	100-ft. coil	.67
57B	1000-ft. spool	6.70
No. 15		
55	100-ft. coil	.54

STRANDED TINNED WIRE

No.		List Price
7/22		
45A	75-ft. coil	.73
45	100-ft. coil	.95
45B	1000-ft. spool	9.50
(Tinned, Continued) 7/22 (14 B&S)		
53A	75-ft. coil	.67
53	100-ft. coil	.88
53B	1000-ft. spool	8.80
7/23 (15 B&S)		
35A	75-ft. coil	.58
35	100-ft. coil	.75
35B	1000-ft. spool	7.50
7/24 (16 B&S)		
52A	75-ft. coil	.48
52	100-ft. coil	.64
52B	1000-ft. spool	6.40

STRANDED ENAMEL WIRE

7/20		
73	100-ft. coil	2.04
7/22		
37A	75-ft. coil	.80
37	100-ft. coil	1.10
37B	1000-ft. spool	11.00
7/22 (14 B&S)		
56A	75-ft. coil	.74
56	100-ft. coil	.96
56B	1000-ft. spool	9.60
7/23 (15 B&S)		
33A	75-ft. coil	.63
33	100-ft. coil	.83
33B	1000-ft. spool	8.30
7/24 (16 B&S)		
54A	75-ft. coil	.54
54	100-ft. coil	.70
54B	1000-ft. spool	7.00

SOLID ENAMEL WIRE

No. 12		
61	100-ft. coil	1.28
61F	150-ft. coil	1.93
61G	200-ft. coil	2.58
61B	1000-ft. spool	12.80
No. 14		
60	100-ft. coil	.83
60B	1000-ft. spool	8.30
No. 15		
36	100-ft. coil	.70

LEAD-IN WIRE

STRANDED

No.	Ft.	Size	List Price
300	50 coil	18-$\frac{1}{32}$"	.43
301	100 spool	18-$\frac{1}{32}$"	.85
302	500 spool	18-$\frac{1}{32}$"	4.00
303	1000 spool	18-$\frac{1}{32}$"	7.80
310	50 coil	16-$\frac{1}{32}$"	.56
311	250 spool	16-$\frac{1}{32}$"	2.80
312	500 spool	16-$\frac{1}{32}$	5.40
313	1000 spool	16-$\frac{1}{32}$"	10.50

SOLID

No.	Ft.	Size	List Price
320	25 coil	18-$\frac{3}{64}$"	.20
321	50 coil	18-$\frac{3}{64}$"	.38
322	500 spool	18-$\frac{3}{64}$"	3.60
323	1000 spool	18-$\frac{3}{64}$"	7.00
330	25 coil	20-$\frac{3}{64}$"	.17
331	50 coil	20-$\frac{3}{64}$"	.33
332	500 spool	20-$\frac{3}{64}$"	3.10
333	1000 spool	20-$\frac{3}{64}$"	5.90

COLORED RUBBER LEAD-IN AND GROUND WIRE

Colors: Red, Black, Green, White

No.		List Price, Each
215	No. 16 str., 25-ft.	.35
216	No. 16 str., 50-ft.	.68
217	No. 16 str., 100-ft	1.25
218	No. 16 str., 1000-ft	12.50

TWISTED PAIR DOWNLEADS

No. 122—List Mft. $18.00

This is a popular-priced twisted pair down lead consisting of two conductors, each No. 22 stranded copper, 1/32" and rubber-covered (one black, one red), twisted and covered with overall black weatherproof braid.

No. 116—List Mft. $35.00

This is a heavy twisted pair down lead especially designed for use in doublet type antennas. Each conductor consists of No. 16 (26/30) stranded tinned copper wire with a 1/32" rubber covering and a single white weatherproof braid. The two conductors are then twisted together.

No. 120—List Mft. $20.00

This is a cheaper twisted pair down lead consisting of two conductors each No. 20 (10/30) stranded copper, 1/32" rubber covered twisted and covered with an overall black weatherproof braid.

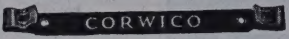
ANTENNA ACCESSORIES

LIGHTNING ARRESTERS

Extreme care has been given to the design of these arresters to produce low-priced products of greatest possible value.

	List Price
No. 825—2 Pole	25c
No. 827—3 Pole (Doublet)	35c

LEAD-IN STRIPS



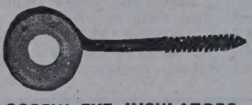
All Strips 12" Long—Packed 50 to a Carton

No.		List per C
760	½" Zinc, High Gloss, Soldered Terminals	$5.85
761	½" Zinc, High Gloss, not Soldered Terminals	5.35
770	$\frac{7}{16}$" Zinc, Dull Finish, not Soldered Terminals	4.50
771	$\frac{7}{16}$" Zinc, Dull Finish, Soldered Terminals	5.00
750	½" Copper, High Gloss, Soldered Terminals	6.75
751	½" Copper, High Gloss, not Soldered Terminals	6.25

SCREW END LEAD-IN STRIPS

Equipped with screw-type terminals, insuring positive and lasting contact. Length 12"—Packed 50 to a Carton.

No. 780—Copper, High Gloss	List per C $7.00
No. 781—Zinc, High Gloss	List per C 6.40
No. 755—Doublet, Copper, High Gloss	List per C 18.00



SCREW EYE INSULATORS

Packed 50 to a Carton

No.	List per C
795—Porcelain Eye, 3"	$3.90
796—Porcelain Eye, 6"	4 50
797—Bakelite Eye, 3"	4 70
798—Bakelite Eye, 6"	5.70

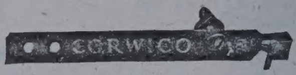
BATTERY CLIPS

Spring jaw clips for instant connection to wet or dry batteries. Packed 30 to carton.

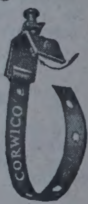
No.	List per C
1—50 amp	$15.00
2—25 amp	8.75
3—10 amp	5.00
4— 5 amp	5.00

GROUND CLAMPS

710



707



700

We manufacture a complete line of ground clamps of all types, for every purpose.

"C" TYPE GROUND CLAMP. Hardened steel point, assures positive ground connection. Opening 1¾". Packed 50 to a carton.

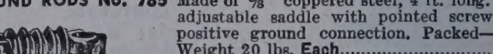
No. 710—Cadmium Plated	List per C $6.00
No. 713—Plain Finish	List per C 4.80

SADDLE TYPE GROUND CLAMP. Hardened steel point assures positive contact. Easily applied to any pipe or rod from ½" to 2½" in diameter. Cadmium Plated. Packed 50 to a carton.

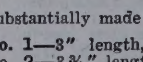
No. 700—Saddle Type	List per C $5.50

STRAP TYPE GROUND CLAMP. Packed 50 to a carton. The No. 708 Clamps have a copper finish.

No. 707—Copper Strap Clamp	List per C $4.25
No. 708—Steel Strap Clamp	List per C 3.80



GROUND RODS No. 785 Made of ⅜" coppered steel, 4 ft. long. Has adjustable saddle with pointed screw for positive ground connection. Packed—12. Weight 20 lbs. Each 50c



GLASS INSULATORS

Substantially made of non-brittle crystal glass.

No. 1—3" length, 100 per carton	List per C $6.00
No. 2—3¾" length, 25 per carton	List per C 6.50

PORCELAIN INSULATORS

Made of high grade glazed porcelain for long and short wave antennas.

No. 790 List per C $3.90

P-A WIRES and CABLES

HOLLYWOOD MICROPHONE CABLES

(Shielded—Rubber Jacketed)

Substantially made to withstand rough usage. Special low capacity color coded rubber used on conductors. Braided with tinned copper shield. Tough weatherproof polished rubber jacket overall.
Single conductor—unusually low capacity. Can be used up to 100 ft. with high impedance ribbon microphones and up to 50 ft. with crystal microphones.

Cat. No.	Conductors	Feet on Spool	Approx. Outside Diam.	List Price
1105	1	100	9/32"	$ 7.00
2104	1	500	9/32"	27.00
2101	1	1000	9/32"	53.00
Two conductor, for low impedance microphones and transmission lines.				
1152	2	100	11/32"	7.60
1153	2	250	11/32"	18.50
2152	2	500	11/32"	36.00
1154	3	100	11/32"	10.25
1155	3	250	11/32"	20.75
2153	3	500	11/32"	41.50
1156	4	100	⅜"	13.00
1157	4	250	⅜"	26.25
2154	4	500	⅜"	52.50
1158	5	100	⅜"	16.50
1159	5	250	⅜"	33.50
1160	6	100	7/16"	18.75
1161	6	250	7/16"	38.00

MULTI-CONDUCTOR RUBBER JACKETED CABLES

(Not Shielded)

Principally Used as Speaker Extension Cables

2160	2	100	¼"	5.00
2161	2	250	¼"	12.00
2162	2	500	¼"	24.00
2163	3	100	¼"	6.80
2164	3	250	¼"	16.75
2165	3	500	¼"	33.50
2166	4	100	5/16"	8.65
2167	4	250	5/16"	21.00
2168	4	500	5/16"	42.00

SHIELDED CABLES

These cables are recommended for sound recording equipment and P.A. systems where a flexible shielded cable is necessary. Each conductor consists of multi-strand copper wire cotton served, rubber covered and braided with color-coded cotton.

Cat. No.	Put-Up	List Price Each
1114	100 spool 2 Conductor	$ 5.30
1115	250 spool 2 Conductor	12.00
1116	100 spool 3 Conductor	7.50
1117	250 spool 3 Conductor	17.50
1118	100 spool 4 Conductor	9.15
1119	250 spool 4 Conductor	21.60
1120	100 spool 5 Conductor	10.80
1121	250 spool 5 Conductor	25.75
1122	100 spool 6 Conductor	12.20
1123	250 spool 6 Conductor	29.25

SHIELDED CABLES—COTTON BRAID OVERALL

Cat. No.	Put-Up	List Price Each
1124	100 spool 2 Conductor	$ 6.60
1125	250 spool 2 Conductor	15.25
1126	100 spool 3 Conductor	9.00
1127	250 spool 3 Conductor	21.25
1128	100 spool 4 Conductor	10.30
1129	250 spool 4 Conductor	24.50
1130	100 spool 5 Conductor	12.50
1131	250 spool 5 Conductor	30.00
1132	100 spool 6 Conductor	14.10
1133	250 spool 6 Conductor	34.00

RADIO BATTERY CABLE AND DYNAMIC SPEAKER EXTENSION CABLE

Made of multi-conductor cable. Flexible conductors with over-all heavy cotton braid. Individual conductor consists of stranded copper, rubber covered with color-coded cotton braid. Suitable to all types of P.A. systems.

Cat. No.	Put-Up	List Price Each
228	3 wire-100 Ft. Spool	4.00
219	4 wire-100 Ft. Spool	5.00
221	5 wire-100 Ft. Spool	6.00
231	6 wire-100 Ft. Spool	7.00
241	7 wire-100 Ft. Spool	8.00
222	8 wire-100 Ft. Spool	9.00
223	9 wire-100 Ft. Spool	10.00
224	10 wire-100 Ft. Spool	11.00
227	12 wire-100 Ft. Spool	13.00

SHIELDED LEAD-IN AND GROUND WIRE

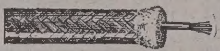
These products are made of flexible stranded copper conductors insulated with a substantial wall of high grade rubber with an overall of close tinned copper shield. They are most frequently used as a shielded down lead to ground out interference noises.

No. 20 FLEXIBLE 1/32" R.C. Cat. No.	Put-Up	List Price Each
1143	50 Ft. Coil	$ 1.35
1144	250 Ft. Spool	5.35
1145	1000 Ft. Spool	20.00

No. 18 FLEXIBLE 1/32" R.C. Cat. No.	Put-Up	List Price Each
1146	50 Ft. Coil	$ 1.30
1147	250 Ft. Spool	6.20
1148	1000 Ft. Spool	22.50

No. 16 FLEXIBLE 1/32" R.C. Cat. No.	Put-Up	List Price Each
1149	50 Ft. Coil	$ 1.60
1150	250 Ft. Spool	7.75
1151	500 Ft. Spool	15.00

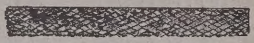
AUTO RADIO WIRES and CABLES



SHIELDED LOW CAPACITY CABLE

Extremely low capacity between conductor and shield used in auto radio for antenna lead-in and elsewhere where a low capacity wire is required.

Cat. No.	Put-Up	List Price Each
1100	50′ Coil ½" O.D.	$5.65
1101	100′ Coil ½" O.D.	10.70
1102	50′ Coil ¼" O.D.	4.20
1103	100′ Coil ¼" O.D.	7.95



BRAIDED TINNED COPPER TUBULAR SHIELDING

Convenient shielding for auto radio installations. We recommend the ¼" width for wires up to 3/16" O.D. and the ½" width for larger wires.

Cat. No.	Put-Up	Width	List Price Each
1108	50 Ft. Spool	¼"	$2.70
1109	100 Ft. Spool	¼"	4.60
1110	250 Ft. Spool	¼"	10.50
1111	50 Ft. Spool	½"	4.55
1112	100 Ft. Spool	½"	8.65
1113	250 Ft. Spool	½"	21.00

SHIELDED LOW CAPACITY LOOM

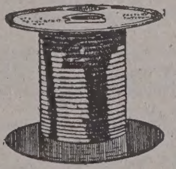
Frequently used in auto radio as a shield for the antenna lead-in. Inside Diameter 3/16" (Approx.). Outside Diameter ¼" (Approx.)

Cat. No.	Put-Up	List Price Each
1106	50′ Coil 3/16" I.D.	$5.50
1007	100′ Coil 3/16" I.D.	10.00

SHIELDED IGNITION CABLE

Consists of a No. 16 Stranded Conductor with high grade rubber wall with a lacquered braid and overall tinned copper shield. This wire is effectively used in secondary circuits in auto radio and also in photo electric cell leads.

Cat. No.	Type	Spool	List Price Each
1134	7MM	R.W.—100′	$ 9.80
1136	7MM	R.W.—250′	24.00
1137	1/32"	R.W.—100′	4.30
1139	1/32"	R.W.—500′	18.50



FLEXIBLE CORDS

(Fixture Wires—Lamp Cords)

Fixture wires often used as all-purpose radio and lead-in wire. Lamp cords used for power supply and extension cords.
Colors: Brown, Black, Ivory.

Cat. No.	Put-up	List Price per M ft.
133—No. 20 Single, Type F, Cotton	1000 ft.	$ 8.50
136—No. 18 Single, Type F, Cotton	1000 ft.	10.50
*138—No. 18 Parallel, Type PO, Rayon	250 ft.	24.00
*139—No. 18 Parallel, Type POSJ, All Rubber	250 ft.	21.00
*132—No. 18 All Rubber Service Cord, Type SJ	250 ft.	40.00

* Has Underwriter's Labels.

TEST LEAD WIRE

A super flexible conductor covered with heavy live rubber. Will not wear, kink or crack. Made in Black and Red. Mention color when ordering.

Cat. No.	Put-Up	List Price Each
1140	100 Ft. Spools	$ 2.75
1141	500 Ft. Spools	12.50
1142	1000 Ft. Spools	24.00

AC-DC Antenna Lead Wire

A replacement antenna wire for Universal Sets at a minimum cost. The type of wire used incorporates the well-known Corlac Insulation between the copper conductor and the outside brown cotton braid which not only assures a moisture-proof product but also greatly tends to make the wire non-kinkable.

Cat. No.	Put-Up	List Price Each
660A	25 Ft. on Fibre	$0.30
660B	100 Ft. on Spools	.90
660C	500 Ft. on Spools	4.00
660	1000 Ft. on Spools	7.50
Same Wire Without Corlac Insulation		
661	on 1000 Ft. Spools	5.90

CORWICO RADIO WIRE *products*

RADIO HOOK-UP WIRES

CORWICO
Braidite
CORNISH WIRE CO.

"BRAIDITE" PUSH-BACK WIRE

These Hook-Up wires are the standard type of push back wires. They have a cotton serve and an impregnated braid which slides back easily from the tinned copper conductor, thus making it easy to solder.

Plain			Lacquered		
Cat. No.	Put-Up	List Each	Cat. No.	Put-Up	List Each
		No. 22 SOLID			
398	25 Ft. Cartons	$0.28	416	25 Ft. Cartons	$0.31
399	100 Ft. Spools	0.94	417	100 Ft. Spools	1.05
400	1000 Ft. Spools	5.90	418	1000 Ft. Spools	6.80
		No. 20 SOLID			
401	25 Ft. Cartons	$0.30	419	25 Ft. Cartons	$0.34
402	100 Ft. Spools	1.05	420	100 Ft. Spools	1.22
403	1000 Ft. Spools	6.75	421	1000 Ft. Spools	8.00
		No. 18 SOLID			
404	25 Ft. Cartons	$0.36	422	25 Ft. Cartons	$0.39
405	100 Ft. Spools	1.33	423	100 Ft. Spools	1.54
406	1000 Ft. Spools	8.70	424	1000 Ft. Spools	10.00
		No. 22 STRANDED			
407	25 Ft. Cartons	$0.32	425	25 Ft. Cartons	$0.36
408	100 Ft. Spools	1.12	426	100 Ft. Spools	1.23
409	1000 Ft. Spools	6.40	427	1000 Ft. Spools	7.40
		No. 20 STRANDED			
410	25 Ft. Cartons	$0.36	428	25 Ft. Cartons	$0.40
411	100 Ft. Spools	1.23	429	100 Ft. Spools	1.38
412	1000 Ft. Spools	7.50	430	1000 Ft. Spools	8.70
		No. 18 STRANDED			
413	25 Ft. Cartons	$0.41	431	25 Ft. Cartons	$0.46
414	100 Ft. Spools	1.56	432	100 Ft. Spools	1.77
415	1000 Ft. Spools	10.00	433	1000 Ft. Spools	11.75

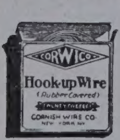
"CORLAC" HOOK-UP WIRE

CORWICO
18 SOLID

For the discriminating service man who knows the importance of voltage break down and insulation resistance. Special under-insulation makes this hook-up wire moisture-proof and gives voltage break-down of 3100 volts (as per certified report of Electrical Testing Laboratory, N. Y. C.). Excellent push-back. Tinned copper conductors.

Plain			Lacquered		
Cat. No.	Put-Up	List Each	Cat. No.	Put-Up	List Each
		No. 22 SOLID			
434	25 Ft. Cartons	$0.33	452	25 Ft. Cartons	$0.37
435	100 Ft. Spools	1.14	453	100 Ft. Spools	1.32
436	1000 Ft. Spools	7.00	454	1000 Ft. Spools	8.30
		No. 20 SOLID			
437	25 Ft. Cartons	$0.37	455	25 Ft. Cartons	$0.44
438	100 Ft. Spools	1.34	456	100 Ft. Spools	1.56
439	1000 Ft. Spools	8.50	457	1000 Ft. Spools	10.30
		No. 18 SOLID			
440	25 Ft. Cartons	$0.43	458	25 Ft. Cartons	$0.48
441	100 Ft. Spools	1,66	459	100 Ft. Spools	1.80
442	1000 Ft. Spools	10.75	460	1000 Ft. Spools	13.20
		No. 22 STRANDED			
443	25 Ft. Cartons	$0.37	461	25 Ft. Cartons	$0.42
444	100 Ft. Spools	1.32	462	100 Ft. Spools	1.44
445	1000 Ft. Spools	8.00	463	1000 Ft. Spools	9.50
		No. 20 STRANDED			
446	25 Ft. Cartons	$0.44	464	25 Ft. Cartons	$0.49
447	100 Ft. Spools	1.54	465	100 Ft. Spools	1.71
448	1000 Ft. Spools	9.60	466	1000 Ft. Spools	11.40
		No. 18 STRANDED			
449	25 Ft. Cartons	$0.51	467	25 Ft. Cartons	$0.59
450	100 Ft. Spools	1.88	468	100 Ft. Spools	2.05
451	1000 Ft. Spools	12.80	469	1000 Ft. Spools	15.00

COLORED RUBBER HOOK-UP WIRE



When a rubber covered hook-up wire is necessary the following products are recommended. They are made of Stranded Tinned Copper Wire covered with live rubber sufficient to withstand any voltage ordinarily used in radio. For circuit distinction these products are covered with colored rubber in Red, Green, Black and White.

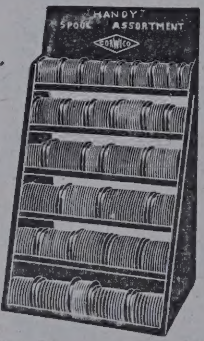
No. 515	25 Ft. Cartons	No. 18—1/64" R.C.	$0.37
No. 515B	1000 Ft. Spools	No. 18—1/64" R.C.	9.25
No. 215	25 Ft. Coils	No. 16—1/32" R.C.	.35
No. 218	1000 Ft. Coils	No. 16—1/32" R.C.	12.50

"NUCOR" HOOK-UP WIRE

By using a special soft rubber insulation this wire has the highest possible electrical properties of insulation resistance and voltage break-down for a push back wire (13,000 volts as per certified report of Electrical Testing Laboratory of New York City). Tinned Copper conductors.

Plain			Lacquered		
		No. 22 SOLID			
Cat. No.	Put-Up	List Price Each	Cat. No.	Put-Up	List Price Each
470	25 Ft. Cartons	$0.40	485	25 Ft. Cartons	$0.45
471	100 Ft. Spools	1.48	486	100 Ft. Spools	1.70
472	1000 Ft. Spools	8.40	487	1000 Ft. Spools	9.90
		No. 20 SOLID			
473	25 Ft. Cartons	$0.43	488	25 Ft. Cartons	$0.49
474	100 Ft. Spools	1.55	489	100 Ft. Spools	1.75
475	1000 Ft. Spools	9.75	490	1000 Ft. Spools	10.85
		No. 22 STRANDED			
476	25 Ft. Cartons	$0.435	491	25 Ft. Cartons	$0.49
477	100 Ft. Spools	1.55	492	100 Ft. Spools	1.70
478	1000 Ft. Spools	9.60	493	1000 Ft. Spools	10.65
		No. 20 STRANDED			
479	25 Ft. Cartons	$0.52	494	25 Ft. Cartons	$0.58
480	100 Ft. Spools	1.82	495	100 Ft. Spools	2.02
481	1000 Ft. Spools	11.40	496	1000 Ft. Spools	12.65
		No. 18 STRANDED			
482	25 Ft. Cartons	$0.62	497	25 Ft. Cartons	$0.72
483	100 Ft. Spools	2.40	498	100 Ft. Spools	2.90
484	1000 Ft. Spools	14.90	499	1000 Ft. Spools	16.50

"HANDY" SPOOL ASSORTMENT



(One Price Spools)

This "Silent Sam" works day and night. An easy, attractive way to sell the fast moving kinds of wire. . . . All one price.

FREE DISPLAY WITH INITIAL ORDER FOR 100 SPOOLS

Extra Display Racks $1.50

LIST PRICE, per spool . 65c

Cat. No.	Approx. ft.
1250—No. 22 Solid Push Back	80
1251—No. 20 Solid Push Back	70
1252—No. 18 Solid Push Back	60
1253—No. 16 Solid Push Back	40
1254—No. 22 Stranded Push Back	70
1255—No. 20 Stranded Push Back	60
1256—No. 18 Stranded Push Back	50
1257—No. 16 Stranded Push Back	35
1258—No. 18 Stranded Colored Rubber	60
1259—No. 16 Stranded Colored Rubber	40
1260—AC-DC Aerial Wire	100
1261—No. 18 Solid Lead-in Wire	70
1262—No. 18 Stranded Lead-in Wire	75
1263—No. 20 Single Fixture Wire	65
1264—No. 18 Single Fixture Wire	55
1265—No. 18 Stranded $\frac{1}{32}$" R.C. Lacquered	40
1266—No. 18 White Bell Wire	100
1267—No. 18 Solid Tinned Copper (Bare)	100
1268—No. 18 Parallel Silk Lamp Cord	30
1269—No. 18 Parallel All Rubber Lamp Cord	30
1270—No. 18 Twisted Lamp Cord	25
1271—Test Lead Wire	35
1272—No. 18 Stranded Shielded	20

MAGNET WIRE DISPLAY

The best way to sell magnet wire. Supplied in even gauges from 16 to 36. on one price spools in plain enamel, double cotton and double silk.

LIST PRICE, per spool.................40c

Free display rack with initial orders for 100 spools.
EXTRA RACKS, $1.50

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Belden ★ AERIAL WIRE · LEAD-IN WIRE · ACCESSORIES

Belden Aerial Wire

FULL GAUGE AND WEIGHT

Stranded Beldenamel

Number	Length In Feet	Size
8005	1000 spool	7 x 22

Solid Beldenamel

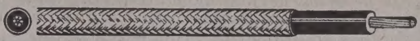
Number	Length In Feet	Size
***8003**	1000 spool	12

All-Rubber Lead-in Wire

Easy stripping—easy soldering. All made of 7 strands of tinned copper wire with extra thick rubber sheath as indicated. (.031″ = 1/32″)

Number	Length in Feet on Spool	Size	Rubber Thickness	Outside Diameter of Wire
8200	1000	18	.040″	.126″

Belden Shielded Lead-in Wire

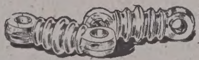


Size 16 stranded, rubber thickness indicated, tinned copper shield. For any audio or radio frequency circuits.

Number	Length in Feet on Spool	Rubber Wall	Frequency (Kc.)	Surge Impedance (Ohms)	Power Factor (Per Cent)	Maximum Capacity mmf. per Ft.
8206	250	$\frac{1}{32}$″	1500	33.5	1.78	63.0
			10000	33.8	1.52	62.0

Belden Arresters—Insulators

8896—Belden standard size bakelite resistor type arrester dissipates destructive charges induced in the aerial system. Listed as standard by Underwriters'. Furnished with $100.00 guarantee.



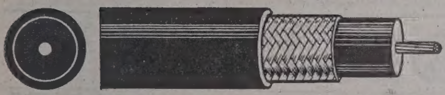
8814—Glass insulators 3″ over-all length.

Belden ★ TRANSMISSION LINE CABLES

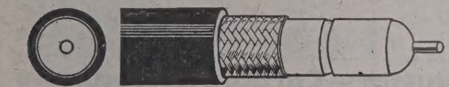
These Transmission Cables will meet the requirements for all the frequencies in the audio to and including the television or frequency modulation range.

72-Ohm Coaxial Cables

Designed for use as antenna receiving or transmitting cables; also for photo-electric or other circuits where characteristics fit the application.



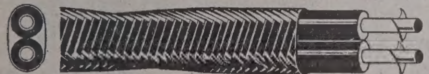
14 Stranded (19 x 28) tinned, low-loss rubber compound, tinned copper shield, tough vulcanized rubber sheath. O.D. = .460″



12 Solid tinned, low-loss insulating bead, tinned copper shield, cotton wrap, vulcanized rubber sheath. O.D. = .475″

Number	Length in Feet On Spool	Frequency (Kc.)	Surge Impedance (Ohms)	Power Factor (Per Ct.)	Capacity Bet. Condrs. (mmf. Per Ft.)	D. B. Loss Per 100 Ft.	Q Value	Min. Punct. Volt.	Max. Load Capacity (Watts)
***8216**	250c†	100	67.8*	.69	28.0	.031	145.	40000	1000
		1500	69.3*	.68	26.8	.225	148.		
8217	100c†	10000	75.8*	.060	16.6	.377	1665.		
		40000	77.0*	.060	15.9	.620	1607.		
		100000	77.8*	.060	15.0	1.06	1607.		

Transmitting Line Cable

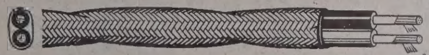


EO1 Type, 12 solid, cellophane wrap, .035″ rubber, twisted pair, over-all cotton braid, weather-proofed.

Number	Length in Feet On Spool	Frequency (Kc.)	Surge Impedance (Ohms)	Power Factor (Per Ct.)	Capacity Bet. Condrs. (mmf. Per Ft.)	D. B. Loss Per 100 Ft.	Q Value	Min. Punct. Volt.	Max. Load Capacity (Watts)
8210	500†	10000	73.7*	2.53	29.7	2.230	39.5		
		40000	73.0*	1.12	29.7	6.300	89.0		
		100000	73.0*	1.12	29.7	10.450	89.0		

72-Ohm Twisted Pair

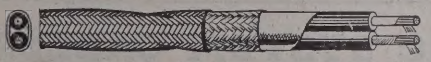
For Broadcast and Short Wave



For the majority of all-wave receivers and of any half-wave di-pole antenna. 18 Stranded tinned, cotton wrap, low capacity rubber, color coded, twisted pair, over-all white cotton braid, weather-proofed.

Number	Length in Feet On Spool	Frequency (Kc.)	Surge Impedance (Ohms)	Power Factor (Per Ct.)	Capacity Bet. Condrs. (mmf. Per Ft.)	D. B. Loss Per 100 Ft.	Q Value	Min. Punct. Volt.	Max. Load Capacity (Watts)
8204	500†	100	66.4*	1.29	34.5	.062		10000	250
		1500	67.7*	1.42	33.5	.357			
		10000	68.4*	1.93	32.5	2.11			
		40000	68.9*	2.02	31.9	6.25			
		100000	69.6*	2.00	31.0	15.600			

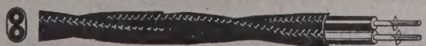
Shielded Twisted Pair



Recommended for lead-ins where interference is great. 18 Stranded tinned, cotton wrap, rubber covered, color coded, twisted pair; paper wrap and tinned copper shield over twisted pair—over-all white cotton braid, weather-proofed.

Number	Length in Feet On Spool	Frequency (Kc.)	Surge Impedance (Ohms)	Power Factor (Per Ct.)	Capacity Bet. Condrs. (mmf. Per Ft.)	D. B. Loss Per 100 Ft.	Q Value	Min. Punct. Volt.	Max. Load Capacity (Watts)
8209	500†	100	75.5*	1.29	24.2	.052		10000	250
		1500	76.8*	1.42	23.4	.270			
		10000	77.7*	1.93	22.7	1.720			
		40000	77.7*	1.83	22.3	4.350			
		100000	79.2*	1.83	21.7	11.100			

Commercial Type Twisted Pair



22 Stranded tinned, paper wrap, rubber covered, color coded, twisted pair, over-all black cotton braid, weather-proofed.

Number	Length in Feet On Spool	Frequency (Kc.)	Surge Impedance (Ohms)	Power Factor (Per Ct.)	Capacity Bet. Condrs. (mmf. Per Ft.)	D. B. Loss Per 100 Ft.	Q Value	Min. Punct. Volt.	Max. Load Capacity (Watts)
8205	500†	100	92.5	5.74	23.8				
		1500	95.8	3.88	22.3				
		10000	96.0	3.63	21.3				

---

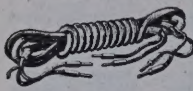
*New put-up or color. *Value of surge impedance may vary ± 10% from the nominal 72-ohm or 100-ohm values.
†Length may vary ± 10%. c = Coils. All wires furnished on spools, except where indicated by letter "c", which indicates coils.

Belden Manufacturing Company, Chicago, U. S. A.

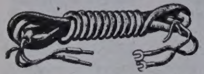
Belden ★ SOLDERING IRONS · CORDS · TERMINALS

Belden Head Phone Cords

5-Foot cords of extra flexible moisture-proof rubber covered tinsel cords, over-all durable mercerized brown cotton braid. "Y" arm sections additional 15", coupled in series.



8872—Head phone set pin tips all ends.



8873—Head phone set spade tips—4-phone ends, pin tips plug end.

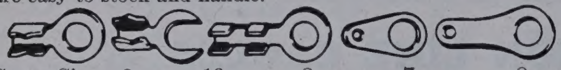
Belden Terminal Assortment

8994—100 Assorted Belden Terminals in clear-view carton. Includes:

20—8995 25—8997
10—8996 10—8998
35—8999

Belden Terminals

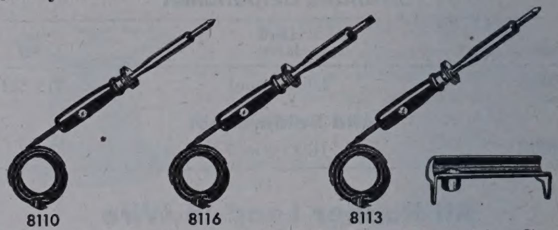
Tinned—easy to solder—packed in clear-view cartons that are easy to stock and handle.



Screw Size	8	10	8	7	8
Number	**8995**	**8996**	**8997**	**8998**	**8999**

Soldering Irons

Three Belden soldering irons provide a range of sizes to take care of practically all radio service and communications work. Sturdy construction throughout assures long service life.

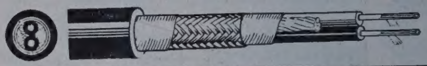


8110—80-Watt iron with ⅜" tip. For light work. Complete with stand including tip cleaner.
8113—100-Watt iron with ⅜" tip. For medium light service. Complete with stand including tip cleaner.
8116—150-Watt iron with ½" tip. For medium heavy work, chassis spotting, etc. Complete with stand.

Soldering Iron Replacements

8111—80-Watt element for 8110.
8114—100-Watt element for 8113.
8117—150-Watt element for 8116.
8112—Tip (⅜") for 8110 or 8113.
8118—Tip for 8116.
8119—Heater cord only. 6-Ft. Belden 3000-cycle heater cord with Belden Unbreakable Soft Rubber Plug. Opposite end stripped and tinned.

Belden ★ MICROPHONE CABLE



8401 For ribbon or crystal and single-button carbon microphones—or low impedance transmission lines. Belden developed low capacity rubber core and special stranding give extra flexibility plus unusual tensile strength.

8411 For lapel microphones.

8431 For phonograph pick-ups—(over-all cotton braid).

				MAXIMUM CAPACITY MMF. PER FT.		
Number	Length in Feet on Spool	Number of Conductors	Size	Between Conductor and Shield	Between Conductors	Outside Diameter
8401	500†	1	25	25		.245"
8411	100	1	25	35		.155"
8431	100	1	20	55		.160"

Two Conductor—Carbon Microphone

For double-button carbon microphone circuits using the shield as the grounded connection and for low impedance, 50- to 500-ohm transmission lines—or for coupling a pre-amplifier to a power amplifier, employing the shield as a ground.

8422	100	2	20	70	37	.280"
8422	500†	2	20	70	37	.280"

Three to Seven Conductor

For double-button carbon microphones feeding a mixer panel or circuits in which the diaphragm of the microphone must be above ground potential, yet shielded from transient fields.

For double-button carbon microphone circuits in which the attenuation control is located at the microphone and employs two of the four conductors of the cable.

For condenser microphone transmission line and power supply to microphone head amplifier.

For condenser microphone circuit with remote control switch or pilot light at microphone.

For auto-radio test instruments and acid resisting analyzer cable.

***8423**	250	3	20	65	37	.280"
***8424**	250	4	20	67	35	.325"
***8425**	250	5	20	58	30	.380"
8426	100	6	20	60	27	.410"
8427	100	7	20	56	26	.430"

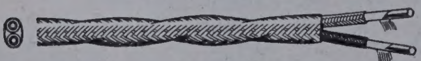
Shielded—Without Rubber Sheath

For temporary indoor installations of low impedance or carbon microphone transmission circuits. 20 (Stranded tinned), paper wrap, 1/64" rubber, color coded treated cotton braid, cabled, with tinned copper shield over-all.

***8432**	250	2	20	61	33	.215"
8433	100	3	20	55	30	.230"
8434	100	4	20	48	25	.270"

Belden ★ PA AND COMMUNICATING SYSTEM CABLES

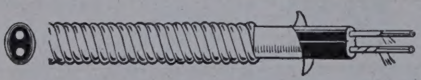
Shielded Twisted Pair Type FOR INSIDE USE



19 Solid, double enameled, wrap cotton, color coded cotton braid, waxed, twisted pair, over-all bare copper shield. No. **8799**, 500 ft. spool, 2 conductors, .145" O.D.

Same construction as 8701, with over-all low-loss shield and cotton braid. No. **8702**, 500 ft. spool, 2 conductors, .165" O.D.

Armored Speaker Cable FOR INSIDE OR OUTSIDE USE



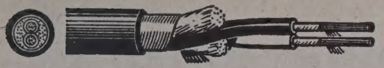
18 Stranded tinned, color coded cotton wrap, 2-conductors parallel, 1/64" rubber, paper wrap, over-all steel armor.
8212—500 Ft. spool, 2 conductors. **8204**—Unshielded Twisted Pair— see p. Q-1.
8209—Shielded Twisted Pair—see p. Q-1.

★ New put-up or color. †Length may vary ± 10%.

Belden Manufacturing Company, Chicago, U. S. A.

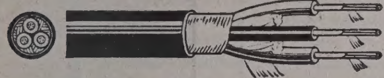
Belden ★ MULTIPLE CONDUCTOR CABLE

Rubber Sheathed



For permanent magnet dynamic speakers and general power supply cable. 18 (41x34) Cotton wrap, 1/64" rubber, color coded, cabled with fillers, cotton wrap—over-all rubber sheath.

Number	Length in Ft. on Spool	No. Conductors	Thickness Rubber Sheath	Outside Diameter
8452	500†	2	.035"	.245"



For electro-dynamic speakers in which one audio circuit serves also as the return lead of the field supply and for speakers with a center-tapped input transformer requiring a three-conductor cable. Construction same as 8452.

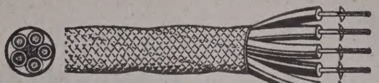
8453	500†	3	.040"	.265"

For four-wire a-c or electro-dynamic speaker lines. Two 18 (41x34) balance 20 (26x34). Size 18—for lower resistance—for speaker field—heavy applications.

8454	500†	4	.040"	.260"

Over-all Glazed Cotton

Abrasion-proof "Basket-Weave" Braid



For permanent installation of speakers, remote control equipment, and multiple circuit, 500-ohm transmission lines.

Number	Length in Ft. on Spool	No. Conductors	Description	Outside Diameter
8443	500†	3	20 (Stranded tinned) paper wrap, .020" rubber, color coded, cabled, over-all brown braid.	.190"
8444	500†	4		.210"
8445	500†	5		.230"

For use where high current must be carried with a low potential drop.

8446	100	6	2—16 (Stranded tinned), 1/32" rubber balance, 20 (stranded tinned). Otherwise same as 8443.	.290"
8447	100	7		.310"
8448	100	8		.345"
8449	100	9		.360"

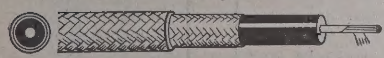
AUTO-RADIO WIRE

Automotive Primary Wires

Stranded tinned copper, wrap colored cellophane, rubber wall, over-all glazed cotton braid lacquered. 100′ Spools; color: 8650, 8651, 8652 blue only.

PLAIN			Rubber Thickness	SHIELDED	
Number	O. D.	Size		Number	O. D.
***8650**	.195"	12	.031"	**8654**	.225"
***8651**	.165"	14	.027"	**8655**	.195"
***8652**	.140"	16	.022"	**8656**	.170"

Auto-Radio Shielded Low Capacitance Lead-In Wire



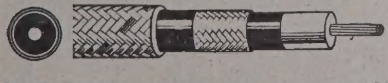
8663—100-Ft. 20 stranded tinned, cotton wrap, low capacity rubber, rayon braid, tinned copper shield over-all. Maximum capacity between conductor and shield 33 mmf. O.D. = .230".

8664—100-Ft. same as 8663 with *rubber sheath* over-all. O.D. = .290".

Spark Plug Wires—PLAIN

8667—7 mm. Belden Pyro-Glaze.

SHIELDED



8665—7 mm. Belden Pyro-Glaze spark plug wire with tinned copper shield.

Extra Flexible Test Prod Wire

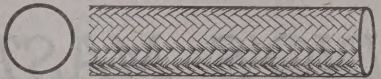
The outstanding feature of this wire is its great flexibility. 18 Stranded (65 x 36, tinned), cotton wrap, 3/64" rubber wall. O.D. = .140".

***8899**—500 Feet, red or black on spool.

High Voltage Test Prod Wire

8898—500 Feet, red or black on spool.

Tinned Copper Shielding



Tinned Copper—8661 fits 7 mm. spark plug wires.

Number	Length in Ft. on Spool	Inside Diameter
8661	50	3/8"
8661	250	3/8"
8660	50	13/64"
8660	250	13/64"
8662	50	25/32"
8662	250	25/32"

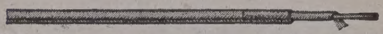
Beldenamel Magnet Wire on ½-Pound Spools

Size	Turns per Linear Inch	Turns per Square Inch	Approximate No. ft. on ½ Lb. Spool
14	14.7	217	39
16	18.6	345	60
18	23.2	540	100
20	29.2	851	160
22	36.5	1330	250
24	45.7	2090	400
26	57.8	3340	635
28	71.9	5170	1010
30	89.0	7920	1610

HOOK-UP WIRE

Size 20 special stranded tinned conductors have true concentric lay. Other stranded constructions are 18 (16 x 30); 14 (41 x 30).

Cellulose Acetate Push-Back "Basket-Weave" Rayon Braid

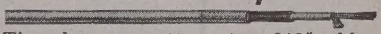


Tinned copper, heavy wrap cellulose acetate, "basket-weave" abrasion-proof rayon braid lacquered. Colors: green, blue, red, yellow, and black. 8938—500′ Furnished in red and black only.

		SOLID			
***8941**	500	20	1500	5.29	19.4
8941	1000	20	10000	6.12	16.4
***8945**	500	18	1500	5.29	19.4
8945	1000	18	10000	6.12	16.4
		STRANDED			
***8943**	500	20	1500	5.29	19.4
8943	1000	20	10000	6.12	16.4
***8947**	500	18	1500	5.29	19.4
8947	1000	18	10000	6.12	16.4
8938	500	14	10000	6.12	16.4

Punct. Voltage at 60 cycles 1550. Insulation* Resistance Megohms 280.

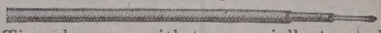
Rubber Push-Back "Basket-Weave" Rayon Braid



Tinned copper, cotton wrap, .010" rubber, "basket-weave" abrasion-proof rayon braid lacquered. Colors: green, blue, red, yellow, and black. 8838—1000 Also made in white.

			At Room Temperature and Humidity		
Number	Length in Ft. on Spool	Size	Frequency (Kc.)	Power Factor (Per Cent)	Q Value
		SOLID			
***8837**	500	20	1500	5.00	20.0
8837	1000	20	10000	5.40	18.5
		STRANDED			
***8838**	500	20	1500	5.00	20.0
8838	1000	20	10000	5.40	18.5

R-F Hook-Up Wire



Tinned copper with two specially treated cellulose acetate braids. Colors: green, blue, red, yellow, black. 8861—Also made in white.

SOLID			10000 2.71 34.0 After 24 hrs. at 100° F. and 90% relative humidity. 100 1.92 55.0 1500 2.47 41.0 10000 3.07 33.0 After 2 hrs. in water at 121° F. 9600.
***8841**	500	20	
***8861**	500	18	
STRANDED			
***8839**	500	20	
***8844**	500	18	

For 8839 Punct. Voltage at 60 cycles 3800. Insulation* Resistance Megohms 49000.

Shielded Grid Wire

Tinned copper, 1/64" rubber, rayon braid lacquered, over-all fine tinned copper shield of 85% coverage. O.D. = .105".

8885 500†

High Tension Corona Resistant

Special rubber compound, heat and corona resisting Pyro-Glaze seal, and braid of Belden Fiberglas. Color: white. O.D. = .200".

Number	Length in Ft. on Spools	Size	Punct. Voltage at 60 Cycles
***8868**	100	18	15000

★New put-up or color. *D.C. Insulation per ft. Immersed in Mercury (Megohms). †Length may vary ± 10%.

Belden Manufacturing Company, Chicago, U. S. A.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

PREMAX TELESCOPING VERTICAL RADIATORS

Aluminum Radiators

Meeting every demand for light weight combined with corrosion resistance and adequate strength for the most exacting conditions, Premax Aluminum Antennas are in popular use for mobile installations, such as pick-up trucks, etc., where light weight, convenience in extending and collapsing and attractive appearance are important considerations. They are ideal for radio telephone use on fresh water craft or inland locations, as well as for commercial installations.

For commercial use, for police, fire, forestry, public utility and similar services, as well as for amateur installations or home receiving sets, Premax Aluminum Antennas are convenient, dependable, attractive and extremely reasonable in cost. The solid taper rod (No. AM-106) makes an ideal element for FM or television di-poles.

The tubing is special drawn bright finish seamless aluminum, with diameters, gauges and temper engineered to withstand wind velocities up to 60 miles per hour without failure or permanent damage. Guying is not essential under normal conditions, but is recommended as an extra precaution against unexpected stresses.

The locking device between sections is of the clutch type, comprising a specially formed hexagon cap nut, engaging a tapered split compression sleeve. This construction is simple in operation and provides an efficient, low-resistance contact between sections.

A group of six different units is available, all excepting the tapered top section (No. AM-106) being fully telescoping and adjustable between the minimum and maximum lengths shown.

HEAVY DUTY NON-ADJUSTABLE MASTS

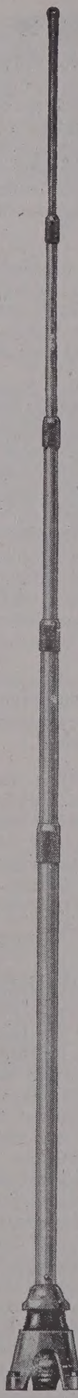
To meet demands from various commercial services, Premax has designed Special Duty Non-Adjustable Masts (not illustrated), which can be depended upon for enduring performance under the most extreme conditions. In either the 17½′ or 35′ lengths, this special aluminum alloy mast is designed to withstand wind velocities up to 100 M. P. H. The tubing is graduated in steps from a base diameter of 2″ to a top of ½″ on the 35′ mast and a base diameter of 31/32″ to a top of ½″ on the 17½′ mast, and has a smooth, polished finish to resist corrosion or a collection of dirt. The joint on the 35′ mast is ground to a fine fit for positive contact and maximum strength throughout.

Several masts of this type were in use without guying at W2USA on the Communications Building for the two years of the New York World's Fair and withstood extremely high gales and severe sleet storms with no evidence of damage in any respect.

SPECIFICATIONS AND LIST PRICES

No.	Ext. Length	Col. Length	Base O.D.	Top O.D.	Base I.D.	Weight Each	List Price
AM-106	6′3″	6′3″	.313″	.125″	. . .	¼ lb.	$ 5.00
AM-312	12′2½″	6′3″	.500″	.320″	.334″	1½ lbs.	10.00
AM-518	18′½″	6′3″	.750″	.320″	.584″	3 lbs.	20.00
AM-124	23′8½″	6′3″	1.000″	.320″	.810″	5 lbs.	30.00
AM-230	29′2″	6′3″	1.312″	.320″	1.112″	7½ lbs.	45.00
AM-336	34′8″	6′3″	1.625″	.320″	1.425″	11 lbs.	60.00
AM-017	17′6″	17′6″	.969″	.500″	.689″	5½ lbs.	40.00
AM-035	34′9″	18′0″	2.000″	.500″	1.732″	19 lbs.	100.00

(For Base Insulators and Mountings see page Q-49)



Monel Radiators

Outstanding for marine installations and those other commercial uses where high strength and unusual resistance to corrosion are prime considerations, Premax Monel Antennas have satisfactorily stood up under the most severe wind and shock strains, even when installed on the speedy boats of the navy and coast guard. Monel antennas have proven their ability to resist the action of sea air, salt spray and other corrosive agents.

The monel masts are built up of multiple sections of hard-drawn monel tubing which is a product of Superior Tube Company of Norristown, Pa. They are fully Telescoping and adjustable. Their rich, highly polished appearance conforms perfectly with the equipment of even the finest craft, yet their cost is not excessive for the more modest installations when their indefinite life and operating efficiency is considered.

Monel is without doubt the perfect material for radio antennas, far more resistant toward more corrosives than either the nickels or coppers which are used in the formulation of monel. It has both the corrosion resistance and mechanical properties which enable it to withstand weather conditions, low temperatures and sudden shocks without affecting its toughness.

Monel is stronger and tougher than common steels and its fatigue strength exceeds the limits of mild steel or all brasses and bronzes. This means freedom from internal structural failures, season cracking and other weaknesses, which, in ordinary metals, result in poor contacts, increased resistance or mechanical breakdowns. The endurance of monel is well shown by the fact that a monel roof on the Pennsylvania Terminal in New York City is still practically perfect after more than 25 years of exposure.

Rigid tests by both government and private shipbuilders have shown Premax Monel Antennas as the most dependable unit available for high efficiency and completely satisfactory service under the most exacting conditions.

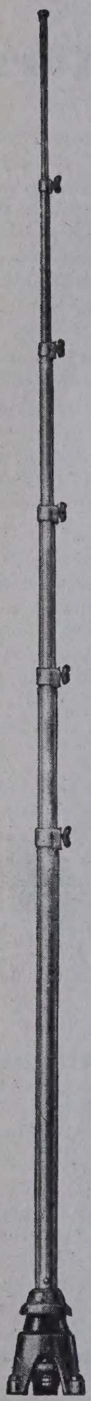
Two types of Monel Antenna are offered, the MM which is standard for most installations and the USM which is a heavy duty antenna in 25-foot length only, developed especially for navy use. The MM type and the USM-525 are telescoping and fully adjustable within the maximum and minimum lengths shown. The USM-325 is a jointed non-adjustable antenna.

SPECIFICATIONS AND LIST PRICES

No.	Old No.	Ext. Length	Col. Length	Base O.D.	Top O.D.	Base I.D.	Wgt. Each	List Each
MM-313	MM-213	13′1″	6′9″	.625″	.489″	.555″	2¾ lbs.	$65.00
MM-419	MM-119	19′1½″	6′9″	.750″	.489″	.666″	5 lbs.	90.00
MM-425	MM-225	24′10½″	6′9″	.875″	.489″	.777″	8 lbs.	120.00
MM-430	MM-330	30′0″	6′9″	1.063″	.489″	.935″	13 lbs.	150.00
MM-435	MM-335	35′0½″	7′8″	1.063″	.489″	.935″	15 lbs.	160.00
USM-525	USM-225	25′0″	7′6″	1.063″	.625″	.932″	12 lbs.	145.00
USM-325		25′0″	9′0″	1.312″	.750″	1.146″	30 lbs.	225.00

(For Base Mountings and Insulators see Page Q-49)

PREMAX TELESCOPING VERTICALS AND ELEMENTS



Steel Radiators

VERTICAL TYPE

Probably the most enviable reputation for dependable, efficient performance under the most severe conditions has been earned by Premax Tubular Steel Antennas which are in wide use for vertical radiators, home receiving antennas and countless commercial and public installations.

Premax Telescoping Steel Antennas are made of a high tensile, copper-nickel steel tubing, heavily plated in bright cadmium. They are not only highly resistant to corrosion but are extremely strong both in material and design.

Diameters and wall thicknesses have been engineered to provide ample strength against all ordinary stresses in the services to which they are adapted. While no positive guarantee can be offered against abnormal wind strains above 60 miles per hour, or extreme conditions encountered in heavy sleet storms and other unusual circumstances, many actual instances have been reported where Premax Telescoping Steel Antennas have weathered such punishment with perfect performance. Guying, while not generally considered necessary, is suggested as a reasonable precaution where possible.

Hundreds of amateur, public and commercial users are recommending Premax Telescoping Steel Antennas as dependable, low-cost equipment for a wide variety of radio services.

Premax Telescoping Steel Antennas are available in a range of sizes as shown below, for many different amateur and commercial services. All units are fully telescoping and adjustable between the maximum and minimum lengths shown. The locking device is simple in operation, positive in action and provides a secure, efficient contact between sections.

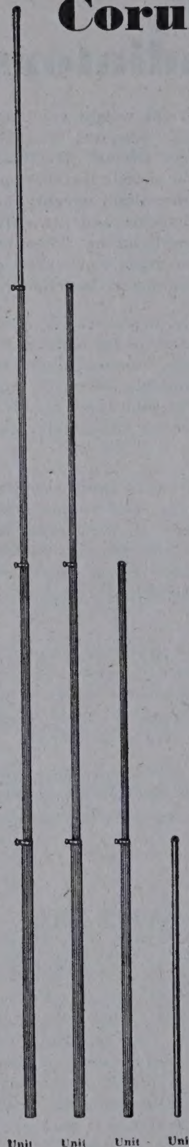
METHODS OF MOUNTING VERTICAL ANTENNAS

There are several commonly used methods of mounting Vertical Antennas, of which the most popular is with Premax Type 1 Heavy Duty Base. Lighter antennas up to about 18 feet in height can be satisfactorily mounted on the Type 2 Base. Type IX Base is similar to the Type 1 excepting that it has a socket instead of a post, and is generally used as footing insulators for towers or where the entire weight is downward. Type 6 is used where the connections are made through a flat roof or deck. In some instances, a wall bracket is desirable in order to secure proper location, and for this purpose the Wall Bracket WB-1 is used with a type 1 or 2 Base. Complete details of the various base mountings and insulators will be found on page Q-49.

SPECIFICATIONS AND LIST PRICES

No.	Description	Ext. Lgth.	Col. Lgth.	Base O.D.	Top O.D.	Base I.D.	Wgt. Each	List Each
112-M	2-sec. telscpg.	11′8″	6′1″	.656″	.500″	.556″	4 lbs.	5.50
318-M	3-sec. telscpg.	17′3″	6′2″	.875″	.500″	.775″	7 lbs.	8.00
224-M	4-sec. telscpg.	22′9″	6′3″	1.063″	.500″	.963″	11 lbs.	11.00
130-M	5-sec. telscpg.	28′3″	6′4″	1.250″	.500″	1.150″	15 lbs.	14.00
136-M	6-sec. telscpg.	33′9″	6′5″	1.500″	.500″	1.400″	20 lbs.	17.00

(Prices do not include base mountings. See page Q-49)



Corulite Elements

OF STEEL

For efficient performance in horizontal arrays and similar applications, the Premax Corulite Elements have a wide acceptance. These elements are exceptionally light in weight, yet provide the necessary extreme strength and rigidity so essential in the horizontal type of construction—and at a surprisingly low cost.

This Corulite type of steel tubing was developed by Premax in order to insure a metal structure which would possess unusual stiffness and strength in combination with light wall thickness and consequent low weight—all features essential in this type of array. Although many attempts have been made to imitate this construction, no other type has been able to equal Premax Corulite. A positive clamp, simple in its operation, insures rigid joints and perfect electrical contact between sections.

All Corulite Elements listed below (excepting No. 104-M) are fully telescoping and adjustable between the minimum and maximum lengths shown. These elements meet all requirements for the various 5, 10 and 20-meter arrays in general use, and will also be found ideal equipment for the experimenter on new combinations in the amateur, commercial, television or F. M. bands.

PREMAX PROVIDES A SPECIAL "HAIRPIN" TUNING BAR

The performance of a definite antenna can, to a large extent, be improved or ruined by the adjustments. This difficulty is completely eliminated by the use of the Premax "Hairpin" Tuning Bar, This bar is inserted between the two halves of the element, and may be slid up or down so as to provide a variation in the overall length from tip to tip of the element without making any adjustment in the two halves of the element itself. In other words, the electrical length is measured from the outside end of one element through that portion of the "hairpin" that is in use to the outside end of the other half of the element. By this method it is possible to have all of the elements set at a single physical length and the variation in their electrical length may be provided by the "hairpin". Similarly, the variation from one end of a given band to another may be obtained by a similar adjustment.

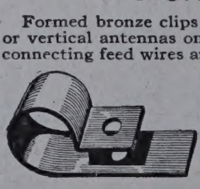
SPECIFICATIONS AND LIST PRICES

No.	Description	Ext. Lgth.	Col. Lgth.	Base O.D.	Top O.D.	Recom. For	Wgt. Per Pr.	List Pair
104-M	1-sec., non-adj.	4′0″	4′0″	.625″	.625″	5-meter	1 lb.	3.00
108-M	2-sec., telscpg.	8′2″	4′7″	.750″	.625″	10-meter	2 lbs.	6.00
113-M	3-sec., telscpg.	12′4″	4′8″	.875″	.625″	Dbl. Zep	3½ lbs.	10.00
618-M	4-sec., telscpg.	17′0″	5′3″	1.000″	.625″	20-meter	5½ lbs.	14.00

(Premax Corulite Elements sold only in pairs, complete with Premax "Hairpin" Tuning Bar) (For Insulators and Mountings, see page Q-49)

BRONZE MOUNTING CLIPS

Formed bronze clips or clamps for mounting horizontal elements or vertical antennas on standard stand-off insulators. Also used for connecting feed wires and transmission lines to antenna or elements. ¾″ wide, cadmium plated.



No.	Description	List Price Pair
218-C	Fits 1″ tube	$0.30
418-C	Fits ⅞″ tube	0.30

PREMAX INSULATORS AND ACCESSORIES

BASE INSULATOR TYPE 1

Heavy duty type, of heavy wet-process brown-glaze porcelain held in compression between hot galvanized malleable iron castings. A Lapp design with compression rating up to 10,000 pounds. Height to top of cone 7″. Bolt circle 5¼″. Weight 7 lbs. Complete with mounting bolts and nuts.

SPECIFICATIONS AND PRICES

No.	Diameter Top Post	Fits Antennas	List Each
1P-24*	¾″	318-M, MM-425	$20.00
1P-26	13/16″	AM-124	20.00
1P-30	15/16″	224-M, MM-430, MM-435	20.00
1P-44*	1 ⅜″	136-M	20.00
1P-45	1 13/32″	AM-336	20.00

*—Can be used with adapters to fit other sizes of masts.

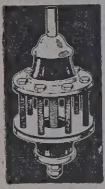
BASE INSULATOR TYPE 2

Light design for up to 18′ masts or longer lengths if guyed or supported with stand-off insulators. Brown glazed porcelain with galvanized malleable iron top post and base support cemented into insulator. Porcelain diameter 3¼″. Height to top of porcelain 6″. Flange diameter 3¼″. Weight 4 pounds. Furnished complete with necessary mounting bolts and nuts.

SPECIFICATIONS AND PRICES

No.	Diameter Top Post	Fits Antennas	List Each
2P-24*	¾″	318-M, MM-425	$5.50

*—Can be used with adapters to fit other sizes of masts.



BASE INSULATOR TYPE 6

For marine, mobile unit, tower platform, roof-top, etc. Simple to install, neat and compact. Lead-thru construction permits antenna connections below deck. General construction similar to Type 1. Flanges are 6″ diameter with six bolt holes on 5″ circle. Furnished with center stud and flange bolts for deck ½″ to 3″ thick. Total height above deck to base of post 4½″. Weight 11½ lbs.

SPECIFICATIONS AND PRICES

No.	Diameter Top Post	Fits Antenna	List Each Galvanized	List Each Bronze
6P-24*	¾″	318-M, MM-425	$25.00	$45.00
6P-26	13/16″	AM-124	25.00	45.00
6P-30	15/16″	224-M, MM-430, MM-435	25.00	45.00
6P-44*	1 ⅜″	136-M	25.00	45.00
6P-45	1 13/32″	AM-336	25.00	45.00

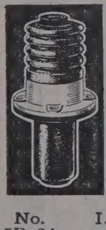
*—Can be used with adapters to fit other sizes of masts.

ADAPTORS FOR BASE INSULATORS TYPES 1 AND 2

Short lengths of cadmium plated steel tubing fitted with connection clamp to permit use of standard Type 1, 2 or 6 Base Insulators with other sizes of tubular masts.

SPECIFICATIONS AND PRICES

No.	Used with Insulator No.	To Fit Antennas	Weight Each	List Each
A-20	1P-24, 2P-24, 6P-24	MM-313 or ⅝″ O.D.	½ lb.	$0.50
A-21	1P-24, 2P-24, 6P-24	112-M or 21/32″ O.D.	½ lb.	0.50
A-24	1P-24, 2P-24, 6P-24	AM-518, MM-419, or ¾″ O.D.	½ lb.	0.50
A-40	1P-44, 6P-44	130-M or 1¼″ O.D.	¾ lb.	0.50
A-42	1P-44, 6P-44	AM-230, or 1 5/16″ O.D.	¾ lb.	0.50

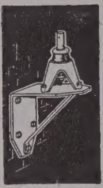


DECK BUSHING

Of brown-glazed porcelain cemented into hot galvanized malleable flange which bolts through rubber gasket to the deck or other surface. Provides additional support for antenna in lieu of guying.

SPECIFICATIONS AND PRICES

No.	I.D.	Total Length	Above Deck	Flange Diameter	Weight Each	List Each
5D-24	¾″	6″	3″	4″	2 lbs.	$8.00
5D-40	1¼″	8″	4¼″	4½″	3½ lbs.	11.00
5D-56	1¾″	8½″	4½″	5⅜″	4½ lbs.	14.00



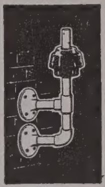
WALL BRACKET

A heavy steel bracket designed for mounting Vertical Radiators on side walls, parapets or posts. Drilled to fit Premax Type 1 and Type 2 Base Insulators. Cadmium plated. Stand-off Type 3 or 4 suggested for use with this mounting, in order to give additional support.

No.	Weight	List Each
WB-1	7 lbs.	$4.50

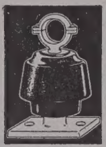
Insulator not included.

WALL MOUNT INSULATOR



Firm, serviceable side mounting which fastens securely to wall or post. Brown-glaze porcelain insulator similar to Type 2. Metal parts hot galvanized malleable iron. Stand-off Insulator Type 3 or 4 suggested for use with this mounting.

No.	Post Diameter	Weight	List Each
2-WP	¾″	5 lbs.	$8.00



Type 3

TYPE 3 INSULATORS

Heavy duty design for stand-off support of vertical antennas, etc., or for use in pairs as complete mounting of vertical or horizontal elements. Galvanized or brass fittings attached to threaded studs cemented in brown-glazed porcelain body. Procelain 3″ diameter. Height to top of porcelain 3″. Weight 2 pounds each.

Type 4

SPECIFICATIONS AND PRICES

No.	Fits Tube O. D.	List Price Each Galvanized	List Price Each Polished Brass
3S-16	½″	$5.00	$ 7.50
3S-20	⅝″	5.00	7.50
3S-24	¾″	5.00	7.50
3S-28	⅞″	5.00	7.50
3S-32	1″	5.00	8.00
3S-34	1 1/16″	5.00	8.00
3S-40	1¼″	5.00	9.00
3S-42	1 5/16″	5.00	9.00
3S-48	1½″	5.00	10.00
3S-52	1⅝″	5.00	10.00

TYPE 4 INSULATORS

Similar in design to Type 3 but with double clamp. Top clamp sizes available in same range as Type 3. Bottom clamp made to fit all standard pipe sizes from ¼″ to 3″. Available in galvanized or polished brass. Prices on request. State size of clamps desired, both top and bottom.

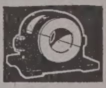
TYPE 7 INSULATORS

A low-priced but substantial stand-off mounting with wide application. Galvanized malleable iron frame enclosing white porcelain split bushing. Height 6″. Weight, each, 2½ pounds.

SPECIFICATIONS AND PRICES

No.	Fits Tube O. D.	List Price
7S-20	⅝″	$3.00
7S-24	¾″	3.00
7S-28	⅞″	3.00
7S-32	1″	3.00

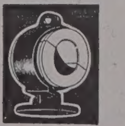
INSULATED MOUNTING CLAMP TYPE 8



A better-than-ordinary insulated mounting support for horizontal elements, verticals, etc., in many of the new arrays. Galvanized malleable iron frame with white porcelain split bushing. Overall width 3½″. Weight each, 1 pound.

No.	Fits Tube O. D.	List Price
8C-20	⅝″	$2.00
8C-24	¾″	2.00
8C-28	⅞″	2.00
8C-32	1″	2.00

(Other sizes available to order)



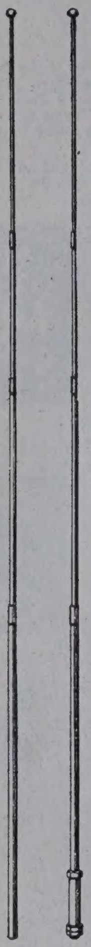
INSULATED MOUNTING CLAMP TYPE 9

A simple, more compact mounting for horizontal elements, verticals, etc., as suggested for Type 8. Gray iron galvanized frame with white porcelain split bushing. Height to center 2″. Weight each, 1 pound.

No.	Fits Tube O. D.	List Price
9C-20	⅝″	$1.75
9C-24	¾″	1.75
9C-28	⅞″	1.75
9C-32	1″	1.75

PREMAX PRODUCTS, DIVISION CHISHOLM-RYDER CO., INC., NIAGARA FALLS, N. Y.

PREMAX POLICE ANTENNA — Receiving and Sending



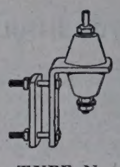
Premax Police Antennas for police and commercial applications are of solid steel of extremely high carbon content, heat-treated and oil-tempered to carefully develop physical properties. Rods of varying diameters, cold-drawn to rigidly held tolerances, are joined securely and permanently into a single graduated length which provides high flexibility, minimum wind resistance and indefinite life. A cadmium plate finish of .001″ minimum gives adequate protection against corrosion in all ordinary atmospheres, including marine or salt air exposures.

Where ordinary antennas bend or break under stress of striking tree branches, bridges, garage doors and similar obstructions, Premax Police Antennas merely flex under the stress and return immediately to normal position when the obstruction is passed. This eliminates the usual replacement costs and Premax Police Antennas may easily save their initial cost in a few months.

Premax Police Antennas are available with two styles of bases. Style A has a plain ¼″ end and fits Premax Mountings K, L, T, R and NA. Style B has a 7/16″ threaded stud complete with hexagon nuts and lock washer and fits Premax Mountings G or N.

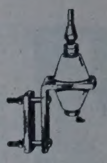
Due to the single piece construction, Premax Police Antenna Rods should be purchased in the nearest standard length for the desired frequency and then cut, if necessary, to the exact length required. Specific lengths can be supplied to order in reasonable quantities.

Premax Police Antenna Rods are also available in polished, hard-drawn Stainless Steel.



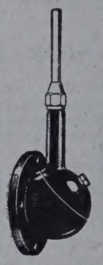
TYPE N

Bumper Mount is of heavy gauge steel with 1¼″ high tension cone insulators. Fits Style B Rod. List, each $4.50



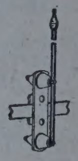
TYPE NA

Adjustable Bumper Mount, otherwise similar to Type N but for Style A Rod. List, each $5.50



TYPE R

Universal Adjustable Mount. Fits Style A Rod. List, each . . . .

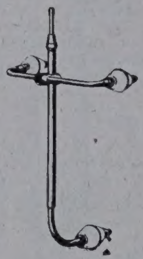


TYPE L

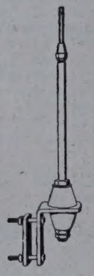
Is similar to Type K in adjusting feature. Has 6″ spacing between insulators giving extra base support. Fits Style A Rod. List, each $10.00

ANTENNA MOUNTINGS

TYPE TA

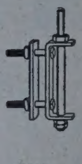


For attaching Type A Rod to trunk or car body. Lower support is solid brass rod securely jointed to 12″ brass tube carrying antenna. Upper support is 24″ brass rod and has adjustable lock permitting proper fitting to contour of car. All insulators are high-tension, white-glazed ceramic cones 1¼″ high. Antenna tube provides maximum 10″ adjustment in antenna height. All metal parts heavily cadmium plated List, each $15.00



TYPE K

Adjustable Bumper Mount, similar in design to Type NA but with longer socket tube which permits 10″ adjustment in height of Style A Rod. List, each $6.50



TYPE G

Grounded Bumper Mount for Style B Rod for use on shunt-fed or grounded systems. List each $1.50

ANTENNA RODS ONLY—LIST PRICES WITHOUT MOUNTINGS

	CADMIUM PLATED STEEL				STAINLESS STEEL			
Lgth	Style A No.	List Price	Style B No.	List Price	Style A No.	List Price	Style B No.	List Price
72″	AC-172	$2.50	BC-172	$3.25	AS-172	$5.50	BS-172	$6.25
78″	AC-178	2.75	BC-178	3.50	AS-178	6.00	BS-178	6.75
84″	AC-184	3.00	BC-184	3.75	AS-184	6.50	BS-184	7.25
90″	AC-190	3.25	BC-190	4.00	AS-190	7.00	BS-190	7.75
96″	AC-196	3.50	BC-196	4.25	AS-196	7.50	BS-196	8.25

PREMAX GROUND RODS FOR RADIO

Premax Ground Rods are made of copper plated or cadmium plated steel or copper-headed with bright steel shaft, in ⅜″, ½″, ⅝″ and ¾″ diameters, and in 4′, 5′, 6′ and 8′ lengths. All rods have one end pointed for easy driving.

They are made in four styles as illustrated: Style D with spring clamp; Style G with screw clamp; Style P with securely attached pigtail wire; Style H with drilled hole.

CADMIUM PLATED GROUND RODS

Size	Style D Spring Clamp	Style G Screw Clamp	List Each
4′x⅜″	No. CD-4	No. CG-4	$0.45
5′x⅜″	No. CD-5	No. CG-5	0.60
6′x⅜″	No. CD-6	No. CG-6	0.70

COPPER PLATED GROUND RODS

Size	Style D Spring Clamp	Style G Screw Clamp	List each
4′x⅜″	No. RD-4	No. RG-4	$0.45
5′x⅜″	No. RD-5	No. RG-5	0.60
6′x⅜″	No. RD-6	No. RG-6	0.70

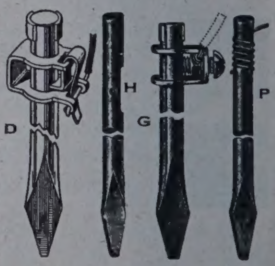
COPPER HEADED GROUND RODS

Size	Style D Spring Clamp	Style G Screw Clamp	List each
4′x⅜″	No. SD-4	No. SG-4	$0.40

HEAVY DUTY GROUND RODS

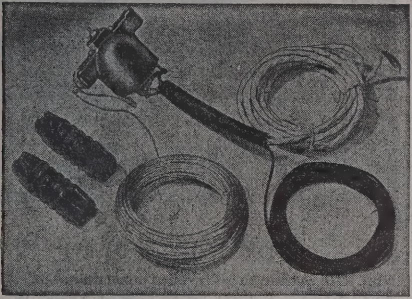
	Style G		Style H		Style P	
Size	No..	List	No.	List	No.	List
5′x½″	G 85	$1.00	H-85	$1.00	P-85	$1.20
6′x½″	G-86	1.10	H-86	1.10	P-86	1.30
8′x½″	G-88	1.40	H-88	1.40	P-88	1.60
6′x⅝″			H-106	1.65	P-106	1.90
8′x⅝″			H-108	2.10	P-108	2.30
8′x¾″			H-128	3.00	P-128	3.25

Above prices apply on either cadmium plated or copper plated rods. Please specify on order.



TACO

ALL-WAVE SELF-SELECTING MASTER ANTENNA SYSTEM



The sensible and economical solution of the radio problem facing apartment houses, hotels, club houses, hospitals or private homes. One efficient aerial and transmission line carried down inconspicously outside of building serves up to 25 sets. Each set connected through a coupler to the aerial. Eliminates usual jungle of unsightly poles, aerials and downleads constituting menace to life and property as well as an unsightly mess.

EFFICIENCY — TACO Master Antenna provides excellent broadcast, amateur and short-wave reception with modern all-wave sets. Matches all sets. Minimum background noise. The system covers all bands including the new FM band by the use of the proper coupler.

SIMPLICITY—All mysteries taken out of installation work. Components available through the distributor in kit form. The Foundation Kit contains all parts necessary for the roof installation. Erect the TACO aerial as high as possible for best results and follow the instructions given in the specification booklet for a durable, successful installation. If additional information is desired we will gladly assist.

LOW COST—As inexpensive as efficient. Inconspicuous neutral tone transmission cable and neat exposed wiring outlets permit wiring any existing building. No objectionable wires. Nothing to mar inside or outside walls.

SPECIFICATION DATA—Complete specification data available in printed form giving full details both for layout as well as cost estimating.

TACO MASTER ROOF KIT

***Cat. No. 340—For 1-25 outlets** **$7.50**

Consisting of:

- 1 Transformer Unit (341)
- 1 15-ft. coil transmission cable (305)
- 2 4" Navy Insulators
- 1 Sleeving
- 1 100-ft. 7/20 tinned copper aerial wire
- 1 25-ft. coil ground wire

TACO HOME ROOF KIT

For a small apartment house or an individual home where a span of 65 feet is available. The antenna may be fully concealed in attic for maximum neatness of installation.

***Cat. No. 342—For 1-8 outlets** **$7.50**

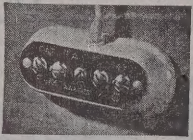
Consisting of:

- 1 Transformer Unit (341)
- 1 15-ft. coil transmission cable (305)
- 2 50-ft. coils No. 14 tinned aerial wire
- 1 25-ft. coil ground wire
- 2 4" Navy Insulators

***No. 341—Transformer Unit only, incorporating the Underwriter's approved Lightning Arrestor** **$3.50**

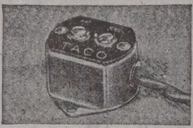
RECEIVER COUPLERS

The choice of Coupler depends on the frequency bands to be covered, the space available and the preference in Coupler finish. If only the Broadcast and S-W bands are required either Coupler may be used. If the new FM band is also desired use No. 343 Coupler.



Coupler finished in baked IVORY. Bakelite terminal panel with screw posts for easy connections to radio set. Single hole mounting.

***No. 343 Coupler, FM and AM bands, for exposed wiring** **$3.00**



Small, Neat, Finished in satin aluminum. Bakelite terminal panel with ANT. & GND. screw posts for radio set connections.

***No. 344 Coupler, for exposed wiring** **$2.50**

ESSENTIAL TACO WIRING PARTS

Cat. No. 304—Aerial Wire 7/20 Tinned Copper Wire, per 80 ft.	**$2.25**
Cat. No. 305—Transmission Line No. 18 Twisted-Pair Neutral Buff-Covered, per 500-ft. roll	**20.00**
Cat. No. 306—Transmission Line No. 18 Twisted-Pair Black-Covered, per 500-ft. roll	**20.00**
Cat. No. 307—Solid knobs, white or brown, for supporting transmission cable. 100 to a carton. Per carton	**4.00**
Cat. No. 309—Double Lightning Arrestor, Underwriters Approved	**.75**
Cat. No. 319—Heavy Duty, low-loss glazed porcelain insulators, 4" long, each	**.20**
Cat. No. 330—Bracket for mounting Antenna Transformer	**1.00**
Cat. No. 186—Mast Bracket, for mounting 1" pipe mast. Complete with lag bolts, expansion shields, U-bolts, per pair	**3.75**

TELEVISION AND FREQUENCY-MODULATION ANTENNAE

For the sure interception of F-M signals, a di-pole antenna similar to a television antenna is recommended. The installation of an F-M antenna is comparatively simple as reflections do not as a rule cause any noticeable interference with the reception.

For this reason, Reflectors are not required except in rare instances. However, the majority of the F-M receivers are also equipped for the reception of amplitude-modulated signals and therefore a transformer system is incorporated in some of our models to assure noise-free reception in the standard broadcast and short-wave bands.

The short rigid di-pole has the advantage over the longer wire antennae mentioned on the front page of this catalog in that it can more readily be erected much higher. A single mast is all that is required. It also has the advantage of being easily directed to intercept the favorite stations. With a long-wire antenna this cannot readily be accomplished, often resulting in a low signal strength on some weak station. Always erect the antenna as high as possible for best results.

The choice of the Antenna and the Transmission Line depends on the signal level in the area. If signal strength is low, use a rigid di-pole type antenna. If the length of the transmission line is over 60 ft. use the special No. 336 U-H-F transmission line.

TELEVISION ANTENNAE

For the selection of the most suitable television antenna-reflector combination and for full detailed installation instructions see our special television catalog sheet.

No. 425—Featherweight Television Antenna complete with universal mounting brackets and 60-ft. transmission line	**$8.75**
No. 450—Featherweight Television Reflector for No. 425 or 426 Antenna, complete with crossarm	**8.50**
No. 428—Double Di-pole Television Antenna complete with Reflectors and 60 ft. No. 152 transmission line	**$33.00**

FM AND TELEVISION STORE DEMONSTRATION SYSTEM

The TACO Store Demonstration Antenna handles all wave bands from the Standard Broadcast band to the U-H-F FM bands with one antenna without any interaction between the sets. Full noise-reduction for all bands. No switching or fussing with connections after the set is once connected to the system. Each set requires its own No. 343 Master Coupler and six to eight sets may be operated from one antenna.

***No. 481-FM — Di-pole Antenna, with No. 480 Transformer, 8-ft. mast, less wire**	**$13.50**
***No. 343 — Master Coupler, one used for each set connected to the system, each**	**$3.00**

• F-M ANTENNA SYSTEMS •

***No. 476-FM—Rigid di-pole Antenna using No. 480 and No. 218-FM transformers for coverage of broadcast and short wave bands in addition to the FM band. Complete with 60-ft. No. 152 transmission line**	**$14.50**
***No. 486-FM—Same as above, plus one 8-ft. wooden mast in two sections**	**17.50**
***No. 477-FM—Rigid di-pole Antenna, same as No. 476-FM, except using 60-ft. No. 336 U-H-F transmission line**	
***No. 487-FM—Same as above, plus one 8-ft. wooden mast in two sections**	
***No. 480—Antenna coupler with mounting bracket**	**3.50**
***No. 218-FM — Receiver Coupler, for connection of one additional receiver**	**3.25**
***No. 215 FM—Antenna, see front page**	**8.25**
***No. 225-FM—Antenna, see front page**	**8.00**

• ACCESSORIES

No. 185—Television Mast, 10-ft. wood mast in two sections	**2.75**
No. 188—Galvanized 10-ft. iron mast in two sections	
No. 186—Pipe Mast bracket, complete with expansion shields, lag bolts and "U" bolts, per pair	**3.75**
No. 152—Transmission line, 500-ft. rolls	**30.00/M**

COMBINATIONS AND DETAILS OF FM AND TELEVISION ANTENNAE SHOWN IN SEPARATE CATALOGUE

TACO DeLuxe Self-Selecting Antenna

The function of an efficient antenna is to bring to the receiver a clear signal free from all interference. This problem has taken on new importance with the introduction of the FM super-high-fidelity receivers as the antenna kits now have to cover a much wider frequency range without loss of fidelity. TACO engineers have solved this problem by introducing special iron dust core transformers into the circuits.

Each kit is designed to meet special requirements and each design is based on TACO's long experience in building high fidelity antennae with unexcelled noise reduction. Determine which type kit is needed to cover the range of the set and regardless of the kit selected you will get the finest instrument of its kind to feed the set the strongest and clearest signals even in locations heretofore considered hopeless for radio reception.

The array of electrically interconnected transformers automatically select the most efficient path for the signals and assure a perfect match to any radio set. A porcelain shell gives perfect weather-proofing and mechanical protection for the transformers. A 30-ft. - 30 ft. doublet aerial makes this kit easy to erect anywhere.

Separate terminals are available on the No. 218-FM set transformer for connection to the FM binding posts on the receiver.

The DeLuxe Antenna is complete, factory wired, soldered and tested under laboratory conditions, ready to be erected.

TACO DeLuxe Antenna is self-selecting and fully automatic and comparative tests indicate the greatest signal-to-noise ratio of any system on the market. Let your own test substantiate our claim.

***Cat. No. 215 TACO DeLuxe Antenna System. Uses No. 217 Set Transformer. Covers 150 kc - 25 mc**	**$8.00**
***Cat. No. 215-FM Antenna, covers FM and AM bands. Uses No. 218-FM Set transformer; 150 kc - 75 mc**	**8.25**
***Cat. No. 200-V Antenna, especially designed for the short wave and broadcast bands**	**8.75**
***Cat. No. 215L—DeLuxe Antenna, less Set Transformer**	**$5.50**
***Cat. No. 216—TACO Antenna Transformer only**	**2.75**
***Cat. No. 217—TACO Set Transformer only**	**3.00**
***Cat. No. 218-FM Set Transformer. Separate leads for the AM and FM bands**	**3.25**

TACO
Self-Selecting
ANTENNA
SYSTEM

CONTENTS OF No. 215 KIT

No. 216 Antenna Transformer; No. 217 Set Transformer; 2-30 ft. coils Tinned Aerial Wire; 60 ft. Transmission Cable; 1 Screw Eye; 2 Nail Knobs; 2 Porcelain Aerial Insulators; Packed in Display Box with complete instructions.

CONTENTS OF No. 215-FM KIT

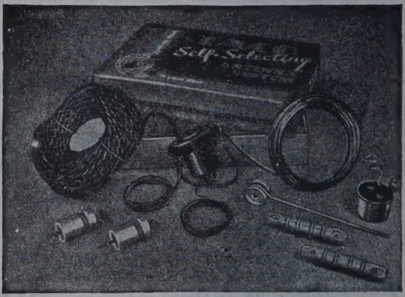
Same as above except using No. 218-FM Set Transformer. Separate leads for the FM and AM bands makes this kit adaptable to any type radio receiver.

For installations where a doublet is difficult to erect, this L-type kit with the transformer attached at one end of a 50-ft. aerial is the ideal solution. It covers the same frequency range as the kit above and has the same type iron core transformers guaranteeing the highest obtainable noise reduction.

Extensively used for homes where the transmission line must be inconspicuously arranged. The construction facilitates the grounding of the transformer unit for maximum noise reduction.

This TACO kit is Self-Selecting and with its durable porcelain shell assures a satisfactory trouble-free installation.

***No. 225 Antenna, using 50-ft. aerial and 60-ft. trans. line. 150 kc - 25 mc. Uses No. 217 Set Transformer**	**$7.75**
***No. 225-FM Antenna, covers FM and AM bands 150 kc - 75 mc. Uses No. 218-FM Set Transformer**	**8.00**
***No. 225L Antenna, less Set Transformer**	**5.25**
***No. 226 Antenna Transformer only**	**2.75**
***No. 217 Set Transformer only**	**3.00**
***No. 218-FM Set Transformer only. Separate leads for the AM and FM bands**	**3.25**

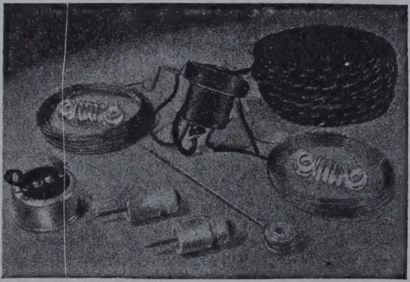


Modern all-wave receivers are capable of reproducing the faintest radio signals brought to the receivers but to furnish an enjoyable program the signal must be free of outside interference.

The TACO Standard Antenna is designed to fulfill these requirements for the standard broadcast band as well as for the short-wave bands and the FM band.

This Antenna System with its weatherproof porcelain antenna unit housing matches all sets regardless of make or design. It is fully automatic, selecting the path of maximum efficiency for the different wave-bands. Iron cores assure the maximum signal transfer in all bands.

The simplicity of construction makes an installation possible where very limited space is available. For the best result the antenna proper should be erected on the roof out of the noise area.



TACO No. 515 STANDARD ANTENNA

For the noise-free reception of standard broadcast and short wave bands.

TACO No. 515-FM STANDARD ANTENNA

Covers all bands including the FM band with excellent clarity and fidelity.

CONTENTS OF No. 515 KIT

No. 516 Antenna Transformer; No. 517 Set Transformer; 2-30 ft. coils Aerial Wire; 60 ft. Transmission Cable; 1 Screw Eye; 2 Nail Knobs; 2 TACO Insulators; Attractively boxed complete with instructions.

CONTENTS OF No. 515-FM KIT

Same as above except using No. 518-FM Set Transformer. Separate leads available for the AM and FM bands.

***No. 515 Antenna, 150 kc - 25 mc. Broadcast and short wave bands**	**$5.25**
***No. 515-FM Antenna, FM and AM bands 150 kc - 75 mc**	**5.50**
***No. 515L Antenna, less set transformer**	**4.25**
No. 516 Antenna Transformer only	**1.75**
***No. 517 Set Transformer, broadcast and short wave bands only**	**1.75**
***No. 518-FM Set Transformer, FM and AM bands, separate leads for FM and AM**	**2.25**

TACO
Self-Selecting
ANTENNA
SYSTEM

CAT. No. 400 ALL-WAVE ANTENNA

The importance of a good antenna system for a modern radio set is generally underestimated. It is an integral part of a radio set and must be treated as such. For best results an antenna must be installed with the utmost care and the TACO No. 400 Antenna improves the all-wave reception in all locations.

This antenna is Self-Selecting, same as the higher priced TACO models. Easily erected in a very limited space on the roof. It is fool-proof and trouble-free—once erected—always functioning.

CONTENTS OF No. 400 KIT

No. 401 Transfer Unit; No. 402 Set Transformer; 2 30-ft. Coils Antenna Wire; 50-ft. Coil Transmission Cable; 1 Screw Eye; 2 Nail Knobs; 2 Porcelain Insulators. Attractively boxed with complete instructions.

***Cat. No. 400 Kit**	**$4.50**
Cat. No. 400L Kit Less Set Coupler	**3.50**
***Cat. No. 402 Set Transformer**	**1.50**

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*Lic. A. A. K., Inc. Pats.; U. S. 1920162, 1938092, 1976909, 1976910, 2002844, 2064400, Re. 19854, Appl. 758234, Canada 334671, 361802, 367126, 367127.

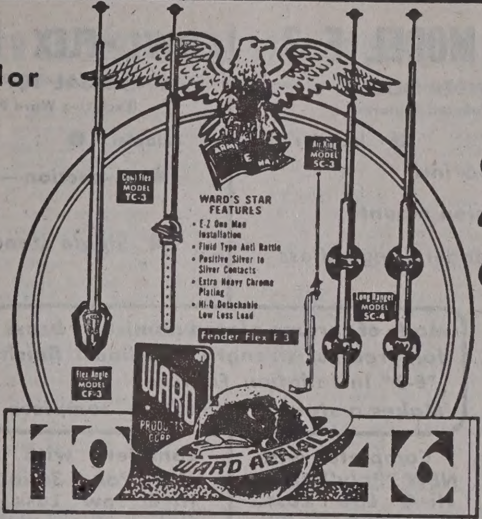
Ward "Hi-Q" AERIALS

For Guaranteed Performance and Greatest Profits

Attractive four color
• display •

Comes complete with the 4 fast movers shown on this sheet

1–SC–3
1–SC–4
1–CF–3
1–TC–3
F–3 (Illustrated)


Cowl Flex MODEL TC-3
WARD'S STAR FEATURES
• E-Z One Man Installation
• Fluid Type Anti Rattle
• Positive Silver to Silver Contacts
• Extra Heavy Chrome Plating
• Hi-Q Detachable Low Loss Lead
Air King MODEL SC-3
Long Ranger MODEL SC-4
Fender Flex F 3
Flex Angle MODEL CF-3
WARD PRODUCTS CORP
1946
WARD AERIALS

This Beautiful Display

Free

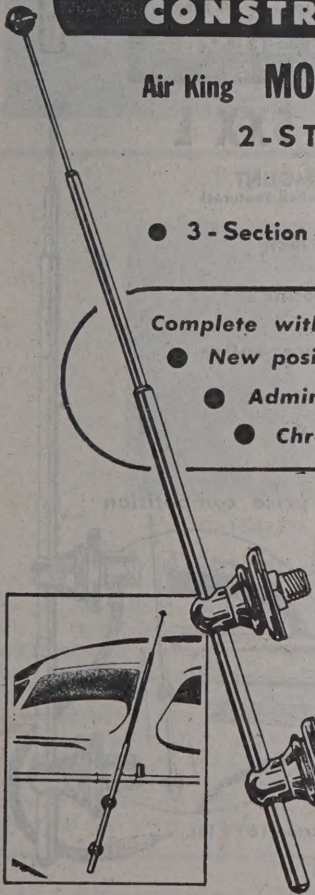
. . . . you pay only for the mounted aerials.

Packed One To a Carton – 10 Lbs.

MODEL WDB-4

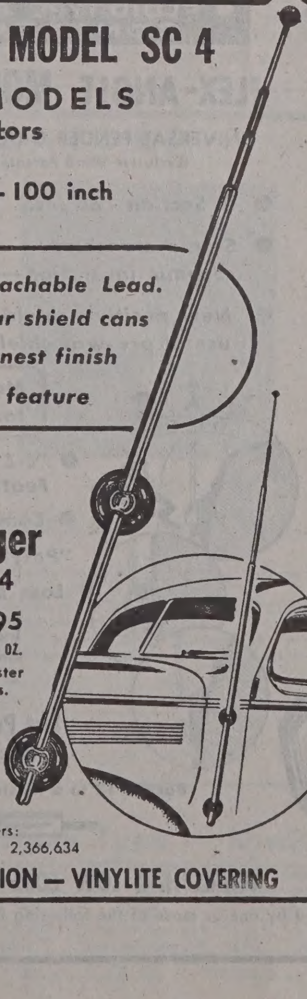
List $ 22.30

A Silent Salesman that will Boost Your Aerial Sales



FLUID TYPE ANTI-RATTLE CONSTRUCTION

SILVER TO SILVER CONTACTS



Air King **MODEL SC 3**

Long Ranger **MODEL SC 4**

2-STANCHION SIDE COWL MODELS

with ceramic and chrome insulators

- 3 - Section - 66 inch
- 4 - Section - 100 inch

Complete with NEW "Poly" 36 in. Hi-Q Low Loss Detachable Lead.

- *New positive shielding eliminates use of pre-war shield cans*
- *Admiralty brass for greatest strength and finest finish*
- *Chrome plated finish*
- *"E-Z" installation feature*

AIR KING

Model SC 3

List Price $ 4.95

Shipping Wgt. 1 lb. 4 oz.

Packed 12 to a Master Carton 16 1/2 lbs.

Long Ranger

Model SC 4

List Price $ 5.95

Shipping Wgt. 1 lb. 15 oz.

Packed 12 to a Master Carton, 25 1/4 lbs.

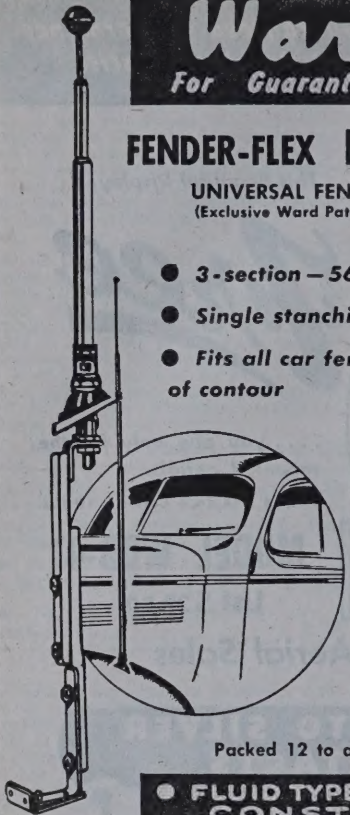
• Includes Bayonet Adapter and Conversion Kit for Torpedo Bodies •

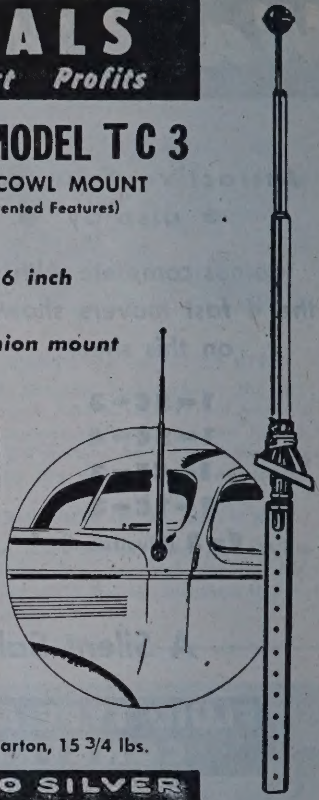
Covered by one or more of the following Patent Numbers:
104,968, 118,160, 2,152,316, 2,251,889, 2,252,671, 2,269,947, 2,366,634

WARD Hi-Q LOW LOSS LEADINS HAVE POLYETHLENE INSULATION — VINYLITE COVERING

Ward "Hi-Q" AERIALS

For Guaranteed Performance and Greatest Profits





FENDER-FLEX MODEL F 3

UNIVERSAL FENDER MOUNT
(Exclusive Ward Patented Features)

- ***3-section — 56 inch***
- ***Single stanchion mount***
- ***Fits all car fenders regardless of contour***

COWL-FLEX MODEL TC 3

UNIVERSAL TOP COWL MOUNT
(Exclusive Ward Patented Features)

- ***3-section — 56 inch***
- ***Single stanchion mount***

● Includes Bayonet Adapter ●

Made of chrome plated admiralty brass for greatest strength and finest finish
"E-Z" Installation Feature
Makes a sturdy installation complete

Complete with NEW "Poly" 48 in. Hi-Q Low Loss Detachable Lead.

List Price $ 7.95
Shipping Wgt. 3 lb.

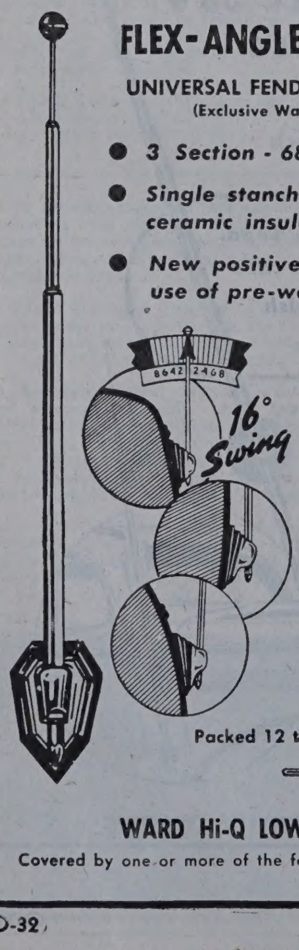
Packed 12 to a master carton, 38 lbs.

Complete with NEW "Poly" 36 in. Hi-Q Low Loss Detachable Lead.

List Price $ 5.95
Shipping Wgt. 1 lb. 5 oz.

Packed 12 to a master carton, 15 3/4 lbs.

● FLUID TYPE ANTI-RATTLE CONSTRUCTION ● SILVER TO SILVER CONTACTS



FLEX-ANGLE MODEL CF 3

UNIVERSAL FENDER OR COWL MOUNT
(Exclusive Ward Patented Features)

- ***3 Section - 68 inch***
- ***Single stanchion ceramic insulation — chrome trim***
- ***New positive shielding eliminates use of pre-war shield cans***

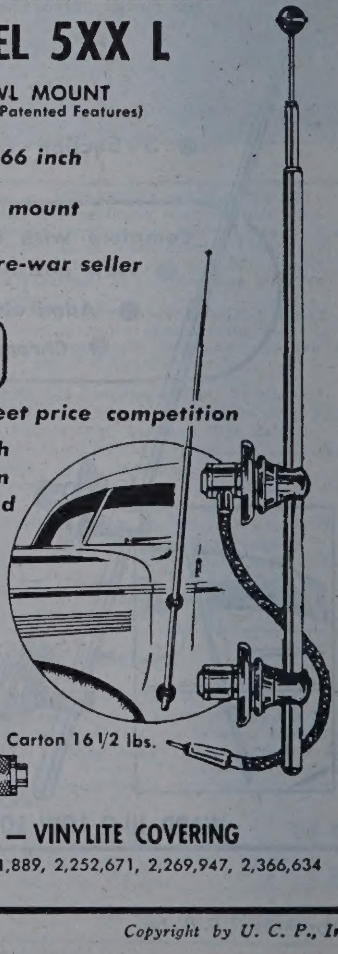
Made of chrome plated admiralty brass for greatest strength and finest finish

- ***"E-Z" Installation Feature***
- ***Complete with NEW "Poly" 36 in. Hi-Q Low Loss Detachable Lead.***

Includes Bayonet Adapter for Lead

List Price $ 5.45
Shipping Wgt. 1 lb. 8 oz.

Packed 12 to a master carton 19 1/2 lbs.



NEW MODEL 5XX L

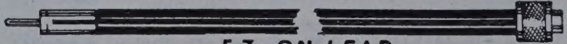
SIDE COWL MOUNT
(Exclusive Ward Patented Features)

- ***3 Section - 66 inch***
- ***2 Stanchion mount***
- ***A popular pre-war seller***
- ***Designed to meet price competition***
- ***Complete with pre-war shield can and NEW shielded "Poly" lead***

Includes Bayonet Adapter and Conversion Kit for Irregular Bodies

List Price $ 4.45
Shipping Wgt. 1 lb. 4 oz.

Packed 12 to a Master Carton 16 1/2 lbs.



E Z-ON LEAD

WARD Hi-Q LOW LOSS LEADINS HAVE POLYETHLENE INSULATION — VINYLITE COVERING

Covered by one or more of the following Patent Numbers: 104,968, 118,160, 2,152,316, 2,251,889, 2,252,671, 2,269,947, 2,366,634

T.M. REG. PYREX U.S. PAT. OFF.

RADIO INSULATORS

for

BETTER RECEPTION · BETTER PROTECTION · BETTER TRANSMISSION

The isolation of radio frequency currents and their confinement within definite circuits demand the use of non-conducting materials possessing an unusual combination of electrical and physical characteristics. Radio frequency currents tend to leak over to adjacent conductors, and materials which may offer a fairly effective barrier to the passage of currents of low frequency sometimes prove to be conductors, or at least inefficient insulators, at radio frequencies.

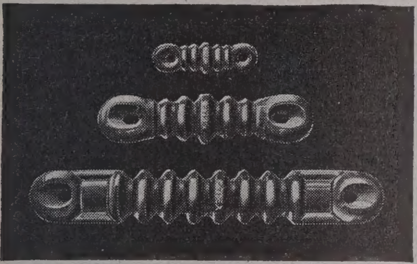
Essential properties for satisfactory radio insulation are low power loss, low surface conductivity, high electrical resistance, a hard smooth surface, stability against corrosive influences, and a high strength-to-weight ratio. These properties must remain permanent and unchanged by age, exposure to the elements, and the continued impact of radio energy.

Performance, which alone has won for PYREX Radio Insulators their present day supremacy, is the direct result of the inherent properties of the glass composition from which they are made. PYREX Radio Insulators are made of a material whose dielectric constant is 4.7 at 740,000 cycles, and whose power factor is 0.42% at 740,000 cycles. The surface conductivity is so low as to be practically negligible. The specific gravity is 2.23, so that in PYREX Radio Insulators the dual advantages of light weight and high electrical strength are combined.

The stability of PYREX Radio Insulators against corrosive influences renders them immune to the attack of acid fumes, smoke, fog and salt sprays. For this last reason, PYREX Insulators are widely used for marine communication systems.

PYREX Radio Insulators, because of their coefficient of expansion of 0.0000032 between 19 deg. C. and 350 deg. C., are indifferent to heat shock and abrupt temperature changes. Tropical sunshine does not create strains within them. The sudden chill of a summer hailstorm does not affect them.

PYREX Insulators have played their part in many spectacular examples of extreme service. They have been with Commander Byrd at the North and South Poles. They were an important part of the radio equipment of the Louise A. Boyd and the MacGregor Arctic expeditions. The Atlantic Ice Patrol sends warnings of icebergs over antennae equipped with PYREX Radio Insulators. They are used by the United States Army Signal Corps, the Coast Guard, the Navy, and the Lighthouse Service. On your own equipment they will perform the same duties and provide the same unfailing service.



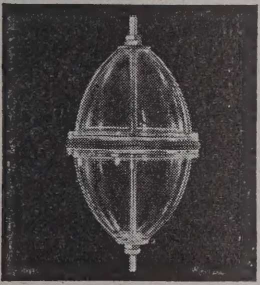
Top 67007—Center 67017—Bottom 67021

PYREX ANTENNA INSULATORS

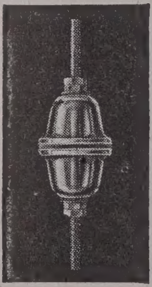
For Superior Sending and Reception. For Longer Life and Trouble-Free Service.

No.	Description	Length Over-all	Developed Leakage Path	Average Flashover Value (KV) Wet	Average Flashover Value (KV) Dry	Minimum Ultimate Strength	Price Each, List
67007	Broadcast Reception Insulator	3⅝″	2 9/16″	28	42	300 lbs.	$ .25
67017	Amateur Transmitting Insulator	7½″	6 1/16″	54	70	800 lbs.	1.00
67021	Strain Insulator	12¼″	11 3/16″	87	121	1000 lbs.	3.00
67003	Galvanized Shackles for installing 67017 or 67021; one pair per insulator; price per pair........						1.00

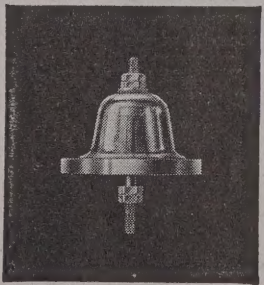
PYREX ENTERING INSULATORS



67115-67116



67104-67105



67056-61

Amateur Type

Here are practical, convenient lead-in Insulators designed specifically for amateur use. The bowls are made of PYREX brand Electrical Glass which possesses high dielectric strength and low power loss. They will give clearer signals and better operation, particularly under adverse conditions. The flanges on these bowls are wide and flat, bringing a large enough surface in contact with the wall to minimize slipping. The ruggedness of the bowls together with the rubber gaskets permits a water-tight, permanent installation. The rods are threaded except for 2½″ in the center. All sizes are supplied with four brass jamb nuts, two brass washers, two rubber washers and two rubber gaskets.

No.	Bowl	Length Center Pin	Outside Diameter	Price Each, List
67104	67056	15″	2½″	$2.00
67105	67056	20″	2½″	2.20
67115	67009	15″	6 1/16″	3.50
67116	67009	20″	6 1/16″	3.60

Airplane Type

67075—Two 67056 Bowls with Brass Fittings but no guides. Has solid brass rod ¼″ diameter, 5¼″ long.
67079—Two 67056 Bowls with Brass Fittings and guides. Has hollow brass rod ⅜″ diameter, 5⅛″.
67056-61—One 67056 Bowl with Brass Fittings, as illustrated.

No.	Outside Diameter	Over-all Length	Price Each, List
67075	2½″	5¼″	1.20
67079	2½″	6¾″	4.50
67056-61	3¼″	4″	3.00

67009-67037

Navy Type — Bowls Only

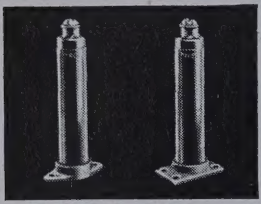
No.	Glass	Height Over-all	Outside Diam. at Base	Price Each, List
67009	Clear or opaque*	4⅜″	6 1/16″	$1.00
67037	Clear or opaque*	4⅜″	6 15/16″	1.00

* Opaque bowls can be furnished at extra cost.

RADIO INSULATORS

for

BETTER RECEPTION · BETTER PROTECTION · BETTER TRANSMISSION



67106-67107 67108-67109

67027

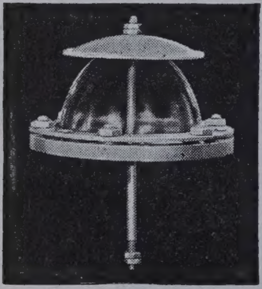
PYREX STANDOFF INSULATORS

No.	Height Over-all	Type of Base	Size of Base	Diameter of Glass Part	Developed Leakage Path	Average Flashover Value (KV) Wet	Average Flashover Value (KV) Dry	Price Each, List
67106	3"	Oval	3 1/16" x 1 11/16"	1¼"	1 7/16"	13.5	22.5	$2.25
67107	7"	Oval	3 1/16" x 1 11/16"	1¼"	5 7/16"	32.5	58.0	2.50
67108	3"	Rectangular	2⅞" x 1 11/16"	1¼"	1 7/16"	13.5	22.5	2.25
67109	7"	Rectangular	2⅞" x 1 11/16"	1¼"	5 7/16"	32.5	58.0	2.50
67027	12¼"	Round	4¾" diameter	2½"	10½"	73.0	96.5	7.00

All types are furnished with cap screw and washer, and brass wood screws for fastening base.

PYREX ENTERING INSULATORS

Navy Type



B-67071

Both types have flanges 8¾" in diameter with six ½" studs equidistantly spaced on 7¾" bolt circle and are approximately 6" high from bottom of lower flange to top of center pin. Center pin is ⅜" in diameter with 16 threads per inch at the ends.

Style B has studs 1 7/16" long and in the bottom flange three equidistantly spaced countersunk 11/32" holes on 7¾" center circle.

Style C is furnished with a template ring 1/16" thick for locating mounting holes for the 2 9/16" studs. This template can also be used as a backing ring or washer.

Both styles have two ⅜" jamb nuts for the lower end of the center pin and Style C has two ½" jamb nuts for each stud.

The 11½" center pin is standard for both assemblies but any other length rod can be furnished at extra cost.

C-67076

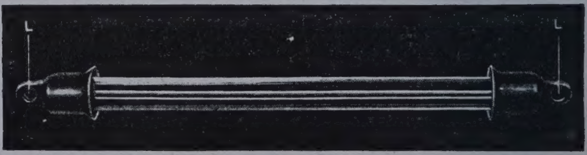
No.	Bowl	Glass	Length Center Pin	Outside Diameter at Base	Price Each, List
67071	67037	Clear or opaque*	11½"	8¾"	$20.00
67076	67037	Clear or opaque*	11½"	8¾"	21.00

* Opaque bowls can be furnished at extra cost.

PYREX STRAIN INSULATORS

Navy Type

Each PYREX Navy Type Strain Insulator is actually tested to 3,500 pounds pull strain for one minute. The minimum ultimate is 5,000 pounds.



67045-67043-67046

No.	Average Length (L to L)	Outside Diameter of Glass Part	Developed Leakage Path	Price Each, List
67045	12"	1⅞"	3⅞"	$9.00
67043	18"	1⅞"	9⅞"	9.50
67046	24"	1⅞"	15⅞"	10.00

RADIO INSULATORS

for

BETTER RECEPTION · BETTER PROTECTION · BETTER TRANSMISSION

The isolation of radio frequency currents and their confinement within definite circuits demand the use of non-conducting materials possessing an unusual combination of electrical and physical characteristics. Radio frequency currents tend to leak over to adjacent conductors, and materials which may offer a fairly effective barrier to the passage of currents of low frequency sometimes prove to be conductors, or at least inefficient insulators, at radio frequencies.

Essential properties for satisfactory radio insulation are low power loss, low surface conductivity, high electrical resistance, a hard smooth surface, stability against corrosive influences, and a high strength-to-weight ratio. These properties must remain permanent and unchanged by age, exposure to the elements, and the continued impact of radio energy.

Performance, which alone has won for PYREX Radio Insulators their present day supremacy, is the direct result of the inherent properties of the glass composition from which they are made. PYREX Radio Insulators are made of a material whose dielectric constant is 4.7 at 740,000 cycles, and whose power factor is 0.42% at 740,000 cycles. The surface conductivity is so low as to be practically negligible. The specific gravity is 2.23, so that in PYREX Radio Insulators the dual advantages of light weight and high electrical strength are combined.

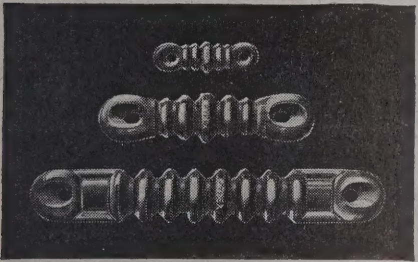
The stability of PYREX Radio Insulators against corrosive influences renders them immune to the attack of acid fumes, smoke, fog and salt sprays. For this last reason, PYREX Insulators are widely used for marine communication systems.

PYREX Radio Insulators, because of their coefficient of expansion of 0.0000032 between 19 deg. C. and 350 deg. C., are indifferent to heat shock and abrupt temperature changes. Tropical sunshine does not create strains within them. The sudden chill of a summer hailstorm does not affect them.

PYREX Insulators have played their part in many spectacular examples of extreme service. They have been with Commander Byrd at the North and South Poles. They were an important part of the radio equipment of the Louise A. Boyd and the MacGregor Arctic expeditions. The Atlantic Ice Patrol sends warnings of icebergs over antennae equipped with PYREX Radio Insulators. They are used by the United States Army Signal Corps, the Coast Guard, the Navy, and the Lighthouse Service. On your own equipment they will perform the same duties and provide the same unfailing service.

PYREX ANTENNA INSULATORS

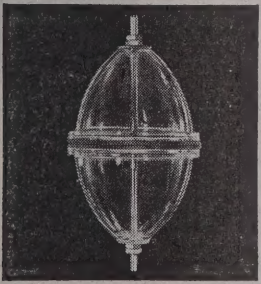
For Superior Sending and Reception. For Longer Life and Trouble-Free Service.



Top 67007—Center 67017—Bottom 67021

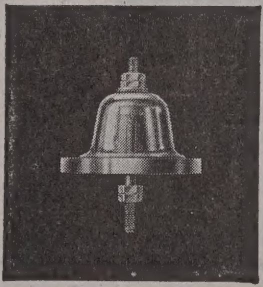
No.	Description	Length Over-all	Developed Leakage Path	Average Flashover Value (KV) Wet	Average Flashover Value (KV) Dry	Minimum Ultimate Strength	Price Each, List
67007	Broadcast Reception Insulator	3⅝″	2 9/16″	28	42	300 lbs.	$ .25
67017	Amateur Transmitting Insulator	7½″	6 1/16″	54	70	800 lbs.	1.00
67021	Strain Insulator	12¼″	11 3/16″	87	121	1000 lbs.	3.00
67003	Galvanized Shackles for installing 67017 or 67021; one pair per insulator; price per pair						1.00

PYREX ENTERING INSULATORS



67115-67116

67104-67105



67056-61

Amateur Type

Here are practical, convenient lead-in Insulators designed specifically for amateur use. The bowls are made of PYREX brand Electrical Glass which possesses high dielectric strength and low power loss. They will give clearer signals and better operation, particularly under adverse conditions. The flanges on these bowls are wide and flat, bringing a large enough surface in contact with the wall to minimize slipping. The ruggedness of the bowls together with the rubber gaskets permits a water-tight, permanent installation. The rods are threaded except for 2½″ in the center. All sizes are supplied with four brass jamb nuts, two brass washers, two rubber washers and two rubber gaskets.

No.	Bowl	Length Center Pin	Outside Diameter	Price Each, List
67104	67056	15″	2½″	$2.00
67105	67056	20″	2½″	2.20
67115	67009	15″	6 1/16″	3.50
67116	67009	20″	6 1/16″	3.60

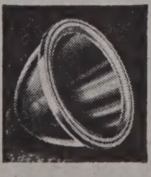
Airplane Type

67075—Two 67056 Bowls with Brass Fittings but no guides. Has solid brass rod ¼″ diameter, 5¼″ long.

67079—Two 67056 Bowls with Brass Fittings and guides. Has hollow brass rod ⅜″ diameter, 5⅛″.

67056-61—One 67056 Bowl with Brass Fittings, as illustrated.

No.	Outside Diameter	Over-all Length	Price Each, List
67075	2½″	5¼″	1.20
67079	2½″	6¾″	4.50
67056-61	3¼″	4″	3.00



67009-67037

Navy Type — Bowls Only

No.	Glass	Height Over-all	Outside Diam. at Base	Price Each, List
67009	Clear or opaque*	4⅜″	6 1/16″	$1.00
67037	Clear or opaque*	4⅜″	6 15/16″	1.00

* Opaque bowls can be furnished at extra cost.

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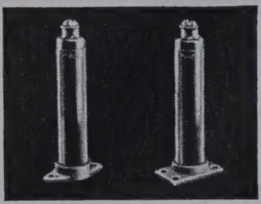
RADIO INSULATORS

for

BETTER RECEPTION · BETTER PROTECTION · BETTER TRANSMISSION



PYREX STANDOFF INSULATORS

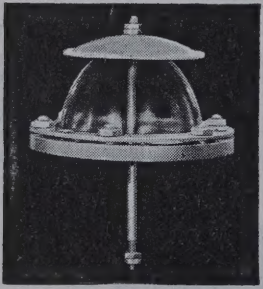
67106-67107 67108-67109 67027

No.	Height Over-all	Type of Base	Size of Base	Diameter of Glass Part	Developed Leakage Path	Average Flashover Value (KV) Wet	Average Flashover Value (KV) Dry	Price Each, List
67106	3″	Oval	3$\frac{1}{16}$″ x 1$\frac{11}{16}$″	1¼″	1 $\frac{7}{16}$″	13.5	22.5	**$2.25**
67107	7″	Oval	3$\frac{1}{16}$″ x 1$\frac{11}{16}$″	1¼″	5 $\frac{7}{16}$″	32.5	58.0	**2.50**
67108	3″	Rectangular	2⅞″ x 1$\frac{11}{16}$″	1¼″	1 $\frac{7}{16}$″	13.5	22.5	**2.25**
67109	7″	Rectangular	2⅞″ x 1$\frac{11}{16}$″	1¼″	5 $\frac{7}{16}$″	32.5	58.0	**2.50**
67027	12¼″	Round	4¾″ diameter	2½″	10½″	73.0	96.5	**7.00**

All types are furnished with cap screw and washer, and brass wood screws for fastening base.

PYREX ENTERING INSULATORS

Navy Type



B-67071

Both types have flanges 8¾″ in diameter with six ½″ studs equidistantly spaced on 7¾″ bolt circle and are approximately 6″ high from bottom of lower flange to top of center pin. Center pin is ⅜″ in diameter with 16 threads per inch at the ends.

Style B has studs 1$\frac{7}{16}$″ long and in the bottom flange three equidistantly spaced countersunk $\frac{11}{32}$″ holes on 7¾″ center circle.

Style C is furnished with a template ring $\frac{1}{16}$″ thick for locating mounting holes for the 2$\frac{9}{16}$″ studs. This template can also be used as a backing ring or washer.

Both styles have two ⅜″ jamb nuts for the lower end of the center pin and Style C has two ½″ jamb nuts for each stud.

The 11½″ center pin is standard for both assemblies but any other length rod can be furnished at extra cost.

C-67076

No.	Bowl	Glass	Length Center Pin	Outside Diameter at Base	Price Each, List
67071	67037	Clear or opaque*	11½″	8¾″	$20.00
67076	67037	Clear or opaque*	11½″	8¾″	21.00

* Opaque bowls can be furnished at extra cost.

PYREX STRAIN INSULATORS

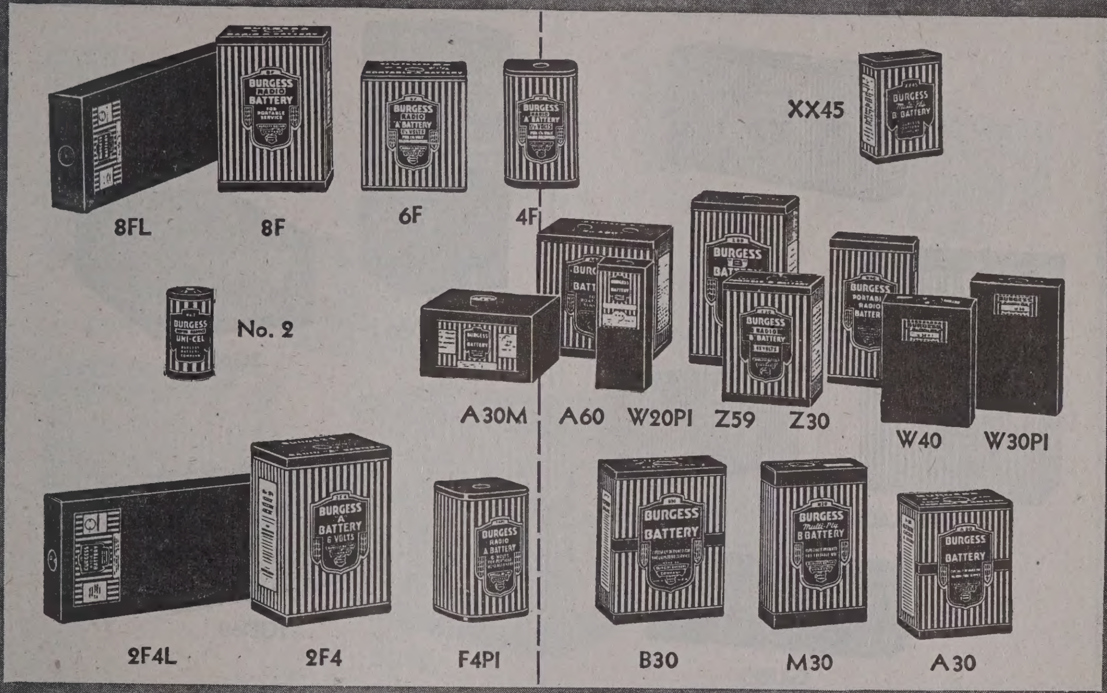
Navy Type

Each PYREX Navy Type Strain Insulator is actually tested to 3,500 pounds pull strain for one minute. The minimum ultimate is 5,000 pounds.

67045-67043-67046

No.	Average Length (L to L)	Outside Diameter of Glass Part	Developed Leakage Path	Price Each, List
67045	12″	1⅞″	3⅞″	$9.00
67043	18″	1⅞″	9⅞″	9.50
67046	24″	1⅞″	15⅞″	10.00

BURGESS BATTERIES



PORTABLE "A"

No. 8FL. 1½ volts. Size, $3\frac{29}{32}''$ x $1\frac{7}{16}''$ x $10\frac{11}{16}''$. Standard package 6. **List price, $ .95.**

No. 4F. 1½ volts. Size, $4\frac{1}{16}''$ x 2⅝" x 2⅝". Standard package 10. **List price, $ .50.**

No. 6F. 1½ volts. Size, 4½" x $13\frac{15}{16}''$ x 2¾". Standard package 6. **List price, $ .75.**

No. 8F. 1½ volts. Size, $5\frac{7}{16}''$ x $3\frac{13}{16}''$ x 2⅝". Standard package 6. **List price, $ .95.**

No. 2F4. 6 volts. Size, 3⅞" x $2\frac{11}{16}''$ x 5½". Standard package 6. **List price, $1.00.**

No. 2F4L. 6 volts. Size, $3\frac{29}{32}''$ x $1\frac{7}{16}''$ x $10\frac{11}{16}''$. Standard package 6. **List price, $1.00.**

No. F4PI. 6 volts. Size, 2⅝" x 2⅝" x 4". Standard package 6. **List price, $ .55.**

No. 2F. 1½ volts. Size, 2⅝" x 1⅜" x $4\frac{3}{16}''$. Standard package 6. **List price, $ .40.**

No. 4FL. 1½ volts. Size, 3⅞" x $1\frac{5}{16}''$ x 5½". Standard package 6. **List price, $ .60.**

No. FX. 1½ volts. Size, $1\frac{5}{16}''$ diameter x 4¾". Standard package 6. **List price, $ .15.**

No. F4L. 6 volts. Size, $3\frac{15}{16}''$ x 1⅜" x 5⅝". Standard package 6. **List price, $ .68.**

No. F4PIX. 6 volts. Size, 2⅝" x 2⅝" x 4". Standard package 6. **List price, $ .55.**

No. G3. 4½ volts. Size, 4" x 1⅜" x $4\frac{15}{16}''$. Standard package 6. **List price, $ .45.**

No. G5. 7½ volts. Size, 3⅝" x $2\frac{11}{16}''$ x $4\frac{5}{16}''$. Standard package 6. **List price, $ .75.**

PORTABLE "B"

No. B30. 45 volts. Size, $2\frac{9}{16}''$ x $4\frac{1}{16}''$ x $5\frac{5}{16}''$. Standard package 6. **List price, $1.50.**

No. M30. 45 volts. Size, 5⅝" x $3\frac{9}{16}''$ x 1⅞". Standard package 12. **List price, $1.50.**

No. A30. 45 volts. Size, 3½" x 2¼" x 4½". Standard package 6. **List price, $1.50.**

No. XX45. 67½ volts, snap-on terminals. Size, $2\frac{21}{32}''$ x $1\frac{11}{32}''$ x $3\frac{21}{32}''$. Standard package 6. **List price, $2.25.**

No. XX30. 45 volts, snap-on terminals. Size, 2½"x $\frac{29}{32}''$ x $3\frac{27}{32}''$. Standard package 10. **List price, $1.75.**

No. A30M. 45 volts. Size, 4⅛" x 3½" x $2\frac{11}{16}''$. Standard package 6. **List price, $1.50.**

No. A60. 90 volts. Size, 4½" x 3¼" x 4⅜". Standard package 4. **List price, $3.00.**

No. Z59. 88½ volts. Size, 3½" x 2¼" x 5⅞". Standard package 6. **List price, $3.50.**

No. W40. 60 volts. Size, 3" x 1¼" x $5\frac{3}{16}''$. Standard package 6. **List price, $2.25.**

No. W34. 51 volts. Size, 3" x 1¼" x 4¼". Standard package 6. **List price, $1.95.**

No. W20PI. 30 volts. Size, $1\frac{13}{16}''$ x $1\frac{3}{16}''$ x 4¼". Standard package 6. **List price, $1.25.**

No. Z30. 45 volts. Size, $3\frac{1}{16}''$ x 2¼" x 4". Standard package 6. **List price, $1.60.**

No. W30PI. 45 volts. Size, $2\frac{15}{16}''$ x $1\frac{3}{16}''$ x $3\frac{15}{16}''$. Standard package 6. **List price, $2.15.**

THE COMPLETE REPLACEMENT LINE

BURGESS BATTERIES

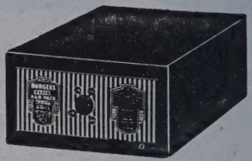
4GA42

5DA60

6TA60

G4B50

18GD60


3G6D60

17GD60

PORTABLE "A & B"

No.	Voltage	Size	ListPrice
6TA60	1½A, 90B	$9\frac{15}{16}\times2\frac{1}{4}\times4\frac{7}{8}$	$3.50
5DA60	1½A, 90B	$5\frac{9}{16}\times2\frac{11}{16}\times6\frac{7}{8}$	3.40
4TA60	1½A, 90B	$8\frac{1}{8}\times2\frac{3}{8}\times4\frac{3}{4}$	3.50
3FA60	1½A, 90B	$4\frac{3}{16}\times10\frac{1}{2}\times2\frac{3}{8}$	3.25
4FA60	1½A, 90B	$7\times3\frac{1}{2}\times4\frac{3}{8}$	3.25
6FA60	1½A, 90B	$11\frac{15}{16}\times6\frac{1}{4}\times1\frac{5}{8}$	3.50
4GA42	1½A, 63B	$9\times2\times4\frac{3}{4}$	2.50
D4A60	6A, 90B	$6\frac{5}{16}\times5\frac{1}{2}\times2\frac{5}{8}$	3.40
D5A60	7½A, 90B	$9\frac{9}{16}\times4\frac{3}{16}\times2\frac{11}{16}$	3.40
F4A41	6A, 61½B	$9\frac{5}{16}\times4\frac{7}{8}\times2\frac{1}{16}$	2.50
F5A60	7½A, 90B	$11\frac{15}{16}\times4\frac{1}{8}\times2\frac{11}{16}$	3.50
F4B60	6A, 90B	$10\frac{5}{8}\times2\frac{3}{4}\times5$	3.55
G4B50	6A, 75B	$4\frac{1}{8}\times12\frac{3}{8}\times2\frac{13}{16}$	3.05
G4B60	6A, 90B	$10\frac{3}{4}\times2\frac{13}{16}\times5$	3.50
G6B60	9A, 90B	$13\frac{7}{8}\times4\frac{11}{16}\times2\frac{13}{16}$	3.75
2F4A60	6A, 90B	$11\frac{15}{16}\times4\frac{1}{8}\times2\frac{11}{16}$	3.50
2F4B60	6A, 90B	$10\frac{9}{16}\times4\frac{1}{8}\times4\frac{1}{16}$	3.95
4GA41	1½A, 61½B	$9\frac{3}{16}\times3\frac{5}{16}\times2\frac{11}{16}$	2.50
G5A42	7½A, 63B	$9\frac{3}{32}\times2\frac{3}{4}\times4\frac{9}{32}$	2.50

FARM "A & B"

No. 17GD60. 1½ volt "A", 90 volt "B". Size, $15\frac{3}{4}'' \times 4\frac{7}{16}'' \times 7\frac{1}{16}''$. Standard package 1. **List price, $6.25.**

No. 18GD60. 1½ volt "A", 90 volt "B". Size, $5\frac{5}{8}'' \times 6\frac{15}{16}'' \times 12\frac{1}{2}''$. Standard package 1. **List price, $6.25.**

No. 3G6D60. 9 volt "A", 90 volt "B". Size, $8\frac{1}{8}'' \times 13\frac{15}{16}'' \times 4\frac{1}{4}''$. Standard package 1. **List price, $5.65.**

No. 739. 7½ volt "A", 90 volt "B". Size, $8\frac{3}{4}'' \times 15\frac{15}{16}'' \times 4\frac{5}{8}''$. Standard package 1. **List price, $6.45.**

No. 398. 6 volt "A", 90 volt "B". Size, $8\frac{3}{4}'' \times 15\frac{15}{16}'' \times 4\frac{5}{8}''$. Standard package 1. **List price, $6.00.**

BURGESS BATTERIES

2308

5308

5156

10308

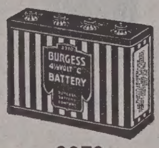
21308

5540

2156

4156

5360


2370

RADIO "B"

No. 2308. 45 volts. Size, 8" x 2⅞" x 7⅛". Standard package 6. **List price, $1.69.**

No. 10308. 45 volts. Size, 8" x 4" x 7½". Standard package 6. **List price, $2.40.**

No. 21308. 45 volts. Size, 8⅛" x 4½" x 7⅜". Standard package 6. **List price, $2.90.**

No. 5308. 45 volts. Size, 5⅞" x 4³⁄₁₆" x 2⁹⁄₁₆". Standard package 5. **List price, $1.50.**

No. 5156. 22½ volts. Size, 3⅝" x 4⅛" x 2⁹⁄₁₆". Standard package 4. **List price, $ .95.**

RADIO "B"&"C"

No. 5540. 7½ volts. Size, 3⅛" x 4" x ⅞". Standard package 4. **List price, $ .65.**

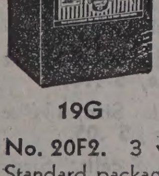
No. 2156. 22½ volts. Size, 3½" x 6⅝" x 4¹⁄₁₆". Standard package 5. **List price, $1.50.**

No. 4156. 22½ volts. Size, 3" x 3⅜" x 2⁹⁄₁₆". Standard package 4. **List price, $ .85.**

No. 5360. 4½ volts. Size, 3" x ¹³⁄₁₆" x 2⅝". Standard package 4. **List price, $ .40.**

No. 2370. 4½ volts. Size, 3⅝" x 4" x 1⅜". Standard package 10. **List price, $ .40.**

FARM RADIO "A"


19G

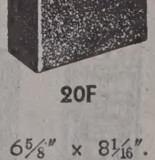
No. 19G. 1½ volts. Size, 7³⁄₁₆" x 5⅝" x 4⁹⁄₁₆". Standard package 4. **List price, $1.95.**

No. 12F3. 4½ volts. Size, 3¼" x 11½" x 6". Standard package 1. **List price, $3.60.**

No. 20F2. 3 volts. Size, 11¹³⁄₁₆" x 3¹⁵⁄₁₆" x 6¹⁄₁₆". Standard package 1. **List price, $3.40.**

No. 20F. 1½ volts. Size, 7" x 7¾" x 2¹¹⁄₁₆". Standard package 4. **List price, $1.85.**

No. 22F2. 3 volts. Size, 15⁷⁄₁₆" x 2⅝" x 8½". Standard package 1. **List price, $3.95.**

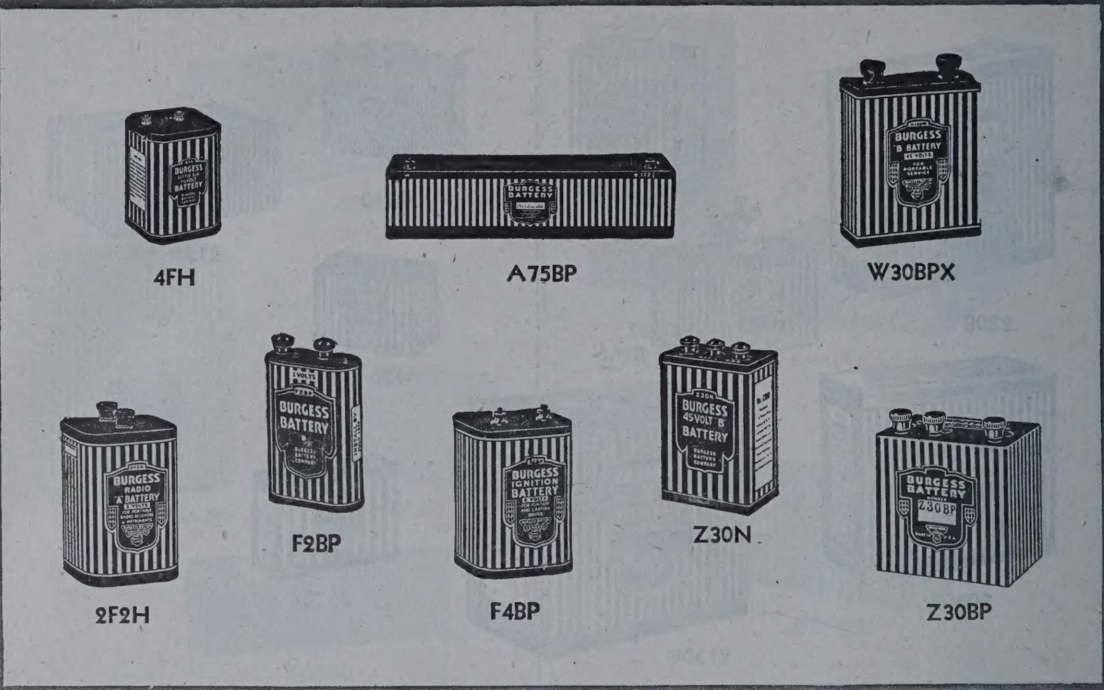

20F

No. 40F2. 3 volts. Size, 11⁹⁄₁₆" x 6⅝" x 8¹⁄₁₆". Standard package 1. **List price, $7.00.**

THE COMPLETE REPLACEMENT LINE

SUBJECT TO TRADE DISCOUNT

BURGESS BATTERIES



FOR INDUSTRIAL APPLICATIONS

"A" BATTERIES

No. 2F2H. 3 volts. Screw terminals with insulated junior knobs. Size, $2\frac{5}{8}'' \times 2\frac{5}{8}'' \times 3\frac{7}{8}''$. **List price, $ .60.**

No. F2BP. 3 volts. Screw terminals with insulated junior knobs. Size, $1\frac{5}{16}'' \times 2\frac{5}{8}'' \times 4\frac{1}{16}''$. **List price, $ .50.**

No. 2FBP. $1\frac{1}{2}$ volts. Screw terminals with brass knurled nuts. Size, $1\frac{5}{16}'' \times 2\frac{5}{8}'' \times 4\frac{1}{16}''$. **List price, $ .50.**

No. F4BP. 6 volts. Screw terminals with brass knurled nuts. Size, $2\frac{21}{32}'' \times 2\frac{21}{32}'' \times 3\frac{15}{16}''$. **List price, $ .60.**

No. 4FH. $1\frac{1}{2}$ volts. Screw terminals with brass knurled nuts. Size, $4\frac{5}{16}'' \times 2\frac{5}{8}'' \times 2\frac{5}{8}''$. **List price, $ .45.**

"B" BATTERIES

No. W30BPX. 45 volts. Screw terminals. Size, $1\frac{7}{32}'' \times 2\frac{29}{32}'' \times 3\frac{5}{8}''$. **List price, $2.55.**

No. Z30N. 45 volts. Screw terminals with insulated junior knobs. Size, $1\frac{7}{8}'' \times 3'' \times 4\frac{17}{32}''$. **List price, $1.70.**

No. Z30BP. 45 volts. Screw terminals. Size, $2\frac{9}{32}'' \times 3\frac{5}{8}'' \times 3\frac{3}{8}''$. **List price, $1.85.**

No. A75BP. $112\frac{1}{2}$ volts. Screw terminals with brass knurled nuts. Size, $3\frac{7}{16}'' \times 10\frac{7}{32}'' \times 2\frac{1}{2}''$. **List price, $4.15.**

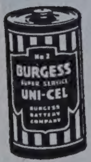
"C" BATTERIES

No. W5BP. $7\frac{1}{2}$ volts. Screw terminals with knurled nuts. Size, $\frac{5}{8}'' \times 2\frac{13}{16}'' \times 1\frac{3}{8}''$. **List price, $ .96.**

No. B2BP. 3 volts. Screw terminals with brass knurled nuts. Size, $\frac{13}{16}'' \times 1\frac{19}{32}'' \times 2\frac{11}{16}''$. **List price, $ .45.**

No. A8BP. 12 volts. Screw terminals with brass knurled nuts. Size, $2\frac{3}{4}'' \times 1\frac{7}{16}'' \times 2\frac{1}{8}''$. **List price, $1.20.**

FLASHLIGHT BATTERIES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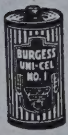
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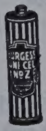

Z

Z2

No. 2. $1\frac{1}{2}$ volts. Standard tubular cell. Size, $2\frac{5}{16}'' \times 1\frac{5}{16}''$. Standard package 48. **List price, $ .10.**

No. 1. $1\frac{1}{2}$ volts. Baby tubular cell. Size, $1\frac{7}{8}'' \times 1''$. Standard package 12. **List price, $ .10.**

No. Z. $1\frac{1}{2}$ volts. Pen-Light Uni-Cel. Size, $1\frac{7}{8}'' \times \frac{9}{16}''$. Standard package 12. **List price , $ .05.**

No. Z2. 3 volts. Equivalent to 2 No. Z cells. Size, $3\frac{7}{8}'' \times \frac{9}{16}''$. Standard package 6. **List price, $ .10.**

THE COMPLETE REPLACEMENT LINE

SUBJECT TO TRADE DISCOUNT

Mueller Electric Co.

CLEVELAND, OHIO

MUELLER BATTERY AND TEST CLIPS

U.S. PATENTS: 1,521,903; 1,686,842; 1,779,442; 1,965,151; 1,994,251; 1,999,613

For use in making quick, temporary electrical connections. Packed 10 in a box, half marked + half plain to indicate polarity. Screw connections

No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1½″ long. Jaw spread ⅜″. Steel, bright finish.

EACH NET....................$0.05 LOTS OF 10....................$0.033

Use No. 47 Insulator

No. 48-B TEST AND BATTERY CLIP

A small test and battery clip for radio use and general testing purposes. 2″ long. Jaw spread $\frac{9}{16}$″. Steel, bright finish.

EACH NET... $0.05 LOTS OF 10... $0.035

No. 48C—Solid Copper. Same size as 48-B.

EACH NET.................... $0.10 LOTS OF 10 ....$0.07

Use No. 49 Insulator for Clips 48-B and 48-C.

No. 27

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work. 2½″ long. Jaw spread ⅝″. Steel, bright finish.

EACH NET....................$0.10 LOTS OF 10 ....$0.07

No. 27-C—Solid copper. Same size as No. 27.

EACH NET .... $0.17 LOTS OF 10....................$0.12

Use No. 29 Insulator for clips 27 and 27-C.

No. 24-A

A medium sized battery clip. Stands erect on battery post. Lead coated, copper shunt protects spring. 2⅞″ long. Jaw spread 1″. Steel, lead plated.

EACH NET $0.10

LOTS OF 10....................$0.07

No. 24—Solid copper. Same size as No. 24-A.

EACH NET....................$0.20 LOTS OF 10....................$0.14

Use No. 26 Insulator for Clips 24-A and 24.

LARGER SIZES OF CLIPS

	Each Net	Lots of 10
No. 21-A—Heavy Duty Steel, lead plated, 4″ long	$0.17	$0.12
No. 11A—100 Amp. Steel, lead plated. 6″ long	0.60	0.42
No. 11—200 Amp. Solid copper. 6″ long	1.00	0.70
No. 33—300 Amp. Solid copper. 7¾″ long	1.80	1.25

(Above furnished with lug connections.)

RUBBER INSULATORS FOR CLIPS

A convenient protection against short circuit and electric shock. Packed 10 in a box, 5 red and 5 black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13	11, 11-A	$0.52	$0.36
23	21, 21-A	0.33	0.23
26	24, 24-A	0.19	0.13
29	27, 27-C	0.12	0.084
35	33	0.82	0.58
47	45, 45-C	0.08	0.056
49	48-B, 48-C	0.09	0.06
87	85	0.06	0.037
93	88	0.05	0.035

CROCODILE CLIPS

U.S. Patent No. 1,999,613

No. 85 Clip with
No. 87 Insulator

No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Teeth really mesh. Screw connection. 2⅜″ long.

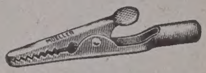
EACH NET.................... $0.07 LOTS OF 10.................... $0.045

No. 85-T—New Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removable heads.

EACH NET.................... $0.14 LOTS OF 10....................$0.095

Use No. 87 Insulators for either clip. Red and Black. Cover entire clip except nose. Protects against short and shock. Helps to distinguish leads.

ALLIGATOR CLIPS



No. 60—CONVENTIONAL TYPE

Accurately made, slim jaws, fine meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Bright, non-corrosive finish. 2″ long.

EACH NET .... $0.05 LOTS OF 10....................$0.35

No. 60-S—SCREW CONNECTION

Eliminates necessity for soldering. Otherwise same as No. 60.

EACH NET $0.06 LOTS OF 10 $0.04

No. 60-CS—NEW COPPER R.F. ALLIGATOR CLIP

Same as No. 60 except made of solid copper. Has phosphor bronze spring and brass screw connection. Ideal for R.F. work. Will not heat up in H.F. circuits. Bright, natural copper finish. 2″ long.

EACH NET.................... $0.10 LOTS OF 10....................$0.07

No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE

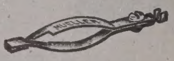
Same as No. 60 except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Bright, attractive finish. 2¼″ long.

EACH NET.................... $0.12 LOTS OF 10....................$0.085

No. 60-CHS—COPPER ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-CS except equipped with red and black insulating sleeves on end. Entirely non-ferrous with brass screw connection, for R.F. work. 2¼″ long.

EACH NET.................... $0.17 LOTS OF 10....................$0.12



WEE-PEE-WEE No. 88

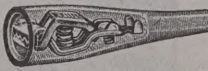
Entirely Non-ferrous. Smaller Than Ever! An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; spring-temper phosphor bronze. **Ideal for close-wound coils.** 1$\frac{11}{16}$″ long; jaw spread ¼″.

EACH NET....................$0.09 LOTS OF 10....................$0.06

No. 93—Fiber-glas Insulators for No. 88 Clip.

EACH NET.................... $0.05 LOTS OF 10....................$0.035

No. 45-C
SOLID COPPER TEST CLIP



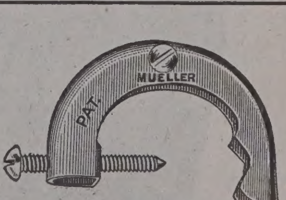
No. 45-C Clip
No. 47 Insulator

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous.

EACH NET....................$0.08 LOTS OF 10....................$0.055

Use No. 47 Insulator.

CLAMPIPE GROUND CLAMP



CLAMPIPE
U.S. PATENT No. 1,794,976

No. 58

The exclusive patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClamPipe that cannot be found in any other make.

The ClamPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal; insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.

The best ground clamp value on the market. Applicable to pipe ⅜″ to 1⅜″ outside diameter.

Packed 10 in a box

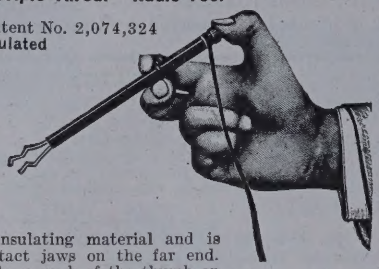
EACH NET....................$0.09 LOTS OF 10....................$0.06

Mueller Electric Co.

THE SNAPPER

A Long Insulated Test Clip and A "Triple Threat" Radio Tool

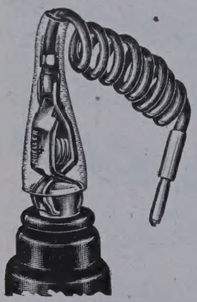
U. S. Patent No. 2,074,324
No. 99—7" Long Insulated



The long tube is of insulating material and is fitted with spring contact jaws on the far end. The jaws are operated by a push of the thumb on the near end. Wire is quickly and easily connected in a hole in the insulator knob binding post on the near end.

May be used as **(1) A "Deep Sea" Electric Test Clip**—test contacts with ease, deep in the recesses of radio chassis with no danger of short circuits; **(2) An Electric Contact Prod**—clip jaws may be used to make quick prod contacts, or clip one Snapper on ground circuit and prod with another; **(3) A Retriever**—start small screws and nuts or pick up odds and ends that may accidentally be dropped into inaccessible places.

PRICE....$0.65 EACH Dealers Wholesale Price, each....**$0.39 Net**
Snappers are generally used in pairs—1 red and 1 black.



U. S. Patents Nos.
1,779,442-1,965,151

INSULATED GRID CLIP ASSEMBLY

One Universal Clip That Fits Them All
This assembly is made up of a Pee-Wee Clip with jaws specially constructed to give a firm grip on all sizes of grid caps, a rubber insulator over the clip, 10 inches of flexible, rubber-covered wire and a standard phone tip.
FEATURES: ● Will Never Weaken or Break ● Bull-Dog Grip—in either vertical or horizontal position, will not come off cap no matter how hard tube is pounded. **● Will Not Injure or Break Grid Cap**—if clip itself is struck accidentally it will pull loose without damaging cap. **● Wire Will Not Pull Loose from Clip**—soldered connection at both ends. **● Quick and Easy Application**—fits all sizes of grid caps.
No. 106—Insulated Grid Clip Assembly
EACH NET $0.20 LOTS OF 10 $0.13

RADIO CLIP KIT

GENUINE UNIVERSAL
MUELLER
Radio
CLIP KIT
77 Pieces
All for only $4.00 NET
Free Samples

No. 104

A handy and useful assortment of clips, ground clamps, insulators, etc. for the radio shop.

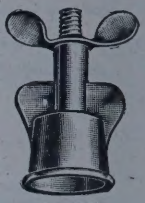
Have what you want when you want it. A real value in a convenient package. The 77 items cost much less when purchased in this kit than they would separately.

PRICE PER KIT..$6.67
Dealers wholesale price..$4.00 Net

BATTERY POST ADAPTER

For Making Non-Corrosive, Semi-Permanent Connections to Storage Batteries

No. 103—Is simply pressed, not burned, on to battery post. The wire is quickly and easily connected under the thumb nut.
Made of non-corrosive antimonial lead. Ideal for use on battery operated home appliances.



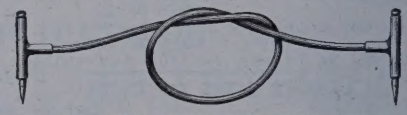
No. 103

Packed 10 in a box
EACH NET.........$0.15 LOTS OF 10..................$0.10

BATTERY CHARGING JUMPERS

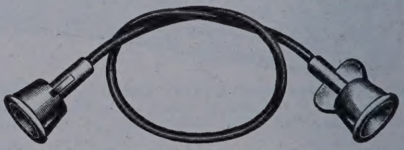
No. 89—MUELLER CLIP JUMPER

A complete jumper, ready to use. Two No. 24-A clips and 14" of rubber covered copper wire.
Packed 10 in a box
EACH NET......................$0.25 LOTS OF 10......................$0.18



No. 57—MUELLER TAP-TITE SPIKE JUMPER

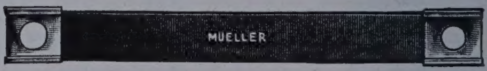
Hard, pointed steel pins soldered to ends of wire and held firmly in lead coated steel jackets. Drive into battery posts.
Packed 10 in a box
EACH NET......................$0.20 LOTS OF 10......................$0.15



No. 38—MUELLER PRES-TITE JUMPER

Is simply pressed over battery posts. Made of non-corrosive, antimonial lead.
Packed 10 in a box
EACH NET......................$0.20 LOTS OF 10......................$0.15

BATTERY CARRIERS



No. 73—MUELLER "COCKEYED CARRIER"

No. 73—A rugger carrier with heavy, rubber covered strap which will stand plenty of abuse. To use, drop the end pieces over the battery posts and lift up. This cocks the eyes and they grab hold. The heavier the battery the tighter the grip. 12" long. Packed 10 in a box.

EACH NET......................$0.40 LOTS OF 10......................$0.27

NEW EXTRA LONG CARRIER

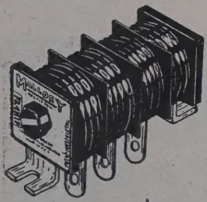
No. 73-EL—19" long. Ample length to take the new long batteries in some latest model cars. Same construction as No. 73. Packed 10 in a carton.

EACH NET......................$0.50 LOTS OF 10......................$0.35

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

P. R. MALLORY & CO. Inc.
MALLORY

Dry Disc Rectifiers Battery Chargers



REPLACEMENT RECTIFIERS

● Ask your distributor, or write for technical bulletin Form R-615 on copper sulphide rectifiers.

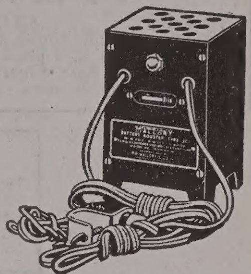
Catalog Number	Replacement for Type Number	List Price
B8C3M	8A3, 4A3, W8A3	**$3.85**
IB12C1M	12C1, F12C1, IF12C1B, 12C1F, F12C1K, IB12CX1, X112, X12, U12, 3C Booster	**5.30**
F16C3M	16C3, F16CB3, 16CD3, X116, X16, ME16, 16C3B*, XB16*, M16*	**6.15**
F16H1P	W16A1, F16G1	**3.60**
IS16CB7M	For 5535 B Charger	**7.65**
IF16CB7M	For 5535 A Charger	**7.80**
IS16B7M	For 107 Charger	**9.60**
F20H1P	F20G1, W20A1, 20A1, X20	**4.30**
F24H1P	F24G1, W24A1	**5.10**
F28H1PM	F28G1, F28H1P	**5.80**
F32H1PM	F32H1P	**6.55**

*Use base from old rectifier.

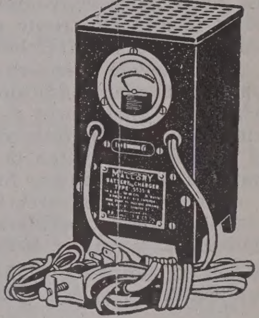
BATTERY CHARGERS AND BOOSTERS

● Mallory Chargers and Boosters provide a simple, economical and dependable method of charging 6-volt storage batteries. They are designed to operate from 115 volts, 50-60 cycles, and to automatically provide a tapering charge; that is, a high charging rate into a discharged battery, the rate gradually decreasing as the battery becomes charged and a safe charging rate when the battery is fully charged.

Although designed especially for battery charging, Mallory Chargers and Boosters may be used for a wide variety of other applications, such as: electroplating, toy and model train operation, with or without a Mallory dry electrolytic condenser in shunt with the D.C. terminals of the rectifiers, in combination with a filter for operating loud speaker fields, as a dry battery substitute for operating coin machines, relays, solenoids, door bells, scientific apparatus, small generator and alternator fields and other applications requiring a low voltage direct current. Supplied complete with dash receptacle for easy attachment.



TYPE 3C



TYPE 5535B

Type Charger	Max. Charg. Rate	Tapered Rate	Charging Motor	Height	Width	Depth	Approx. Shipping Weight	Length A.C. Cord	Length D.C. Cord	List Price
3CB	4 amps.	2 amps.	No	6 in.	3⅞ in.	3⅜ in.	4¾ lbs.	6 feet	4 feet	**$9.55**
5535B	6 amps.	4 amps.	Yes	7⅞ in.	4½ in.	4¾ in.	7¼ lbs.	6 feet	6 feet	**13.80**
107	10 amps.	7 amps.	Yes	9¼ in.	6¼ in.	5¾ in.	11 lbs.	6 feet	6 feet	**18.00**
125†	5 amps.	3 amps.	Yes	9¼ in.	6¼ in.	5¾ in.	11 lbs.	6 feet	6 feet	**27.00**

†For charging 12-volt storage batteries in aircraft, boats, buses and fire trucks. Types 3C, 5535B and 107 are for charging batteries of 6 volts or less.

All chargers are equipped with one No. 652 dash receptacle.

CHARGER ACCESSORIES

No. 652—Extra dash receptacle and plug for Mallory 3C, No. 5535A, No. 5535B and 107 charger....$1.80

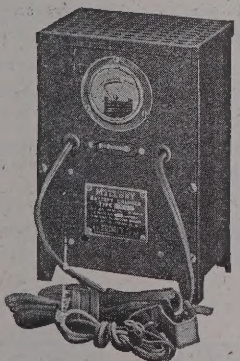
AVIATION BATTERY CHARGERS

● Mallory aviation rectifier battery chargers have been designed and developed to answer the need for a practical and economical unit to charge 12 and 24 volt aircraft batteries and battery carts.

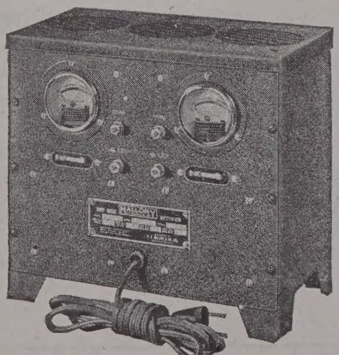
Featuring a tapering charge, these units supply a high charging rate for a discharged battery with a gradually decreasing rate as the battery becomes charged.

Mallory aircraft battery chargers employ the "tried and proven" Mallory magnesium-copper sulfide dry disc method of rectification. This method eliminates all moving parts and assures long life and dependability.

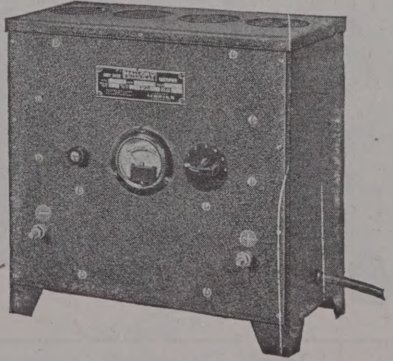
Write for catalog sheet R-662.



TYPE 125



TYPE 5AC24D



TYPE 10AC24

Type Charger	Battery Volts	No. of Cells	Amps. Charg. Initial	Amps. Tapered	DC Output		Length	Width	Height	Appr. Ship. Weight	AC Cord Length	Net Price
					Connection	Type						
5AC24D	12* 24*	6 12	7½ 5	4½ 3	Parallel Series	4 Studs	10 in.	5½ in.	9 in.	20 lbs.	8 feet	**$37.50**
10AC24	24	12	10	6	Straight	Studs	12 in.	10 in.	14 in.	85 lbs.	8 feet	**72.50**

*Two 12-volt batteries may be charged simultaneously from independent circuits or connected in series and charged from 24-volt output.

P. R. MALLORY & CO. Inc.
MALLORY

Battery Chargers DC Power Supplies

TYPE VA 1500

Type No.	AC Input
VA1500	208 or 230 V. 3 phase 60 cycle
VA1500-A	460 V. 3 phase 60 cycle

DC Output for Both Types: 100 amps at 10-16 volts or 50 amps. at 20-32 volts.

TYPE VA 3000

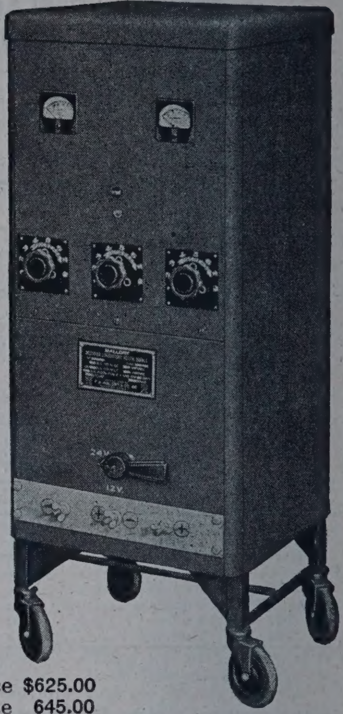
Type No.	AC Input
VA3000	208 or 230 V. 3 phase 60 cycle
VA3000-A	460 V. 3 phase 60 cycle

DC Output for Both Types: 200 amps at 10-16 volts or 100 amps. at 20-32 volts.

TYPE VA 4500

Type No.	AC Input
VA4500	208 or 230 V. 3 phase 60 cycle
VA4500-A	460 V. 3 phase 60 cycle

DC Output for Both Types: 300 amps. to 10-16 volts or 150 amps. at 20-32 volts.



MALLORY PORTABLE RECTOPOWER**

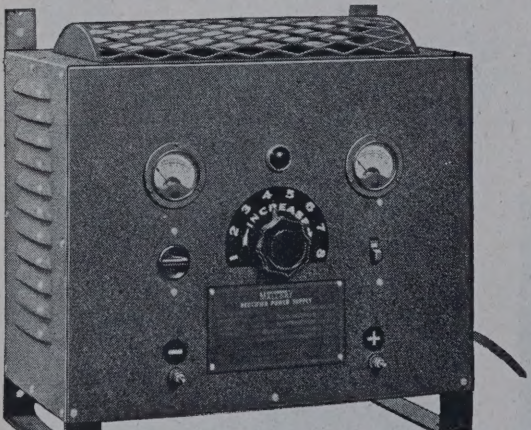
The portable rectopower requires no special foundation, but may be rolled easily about the laboratory or assembly floor to the exact spots where it can be used most conveniently. Radio transmitters and receivers, and other electric and electronic equipment, may be tested while in the process of manufacture or after being installed.

Rectopowers have variable voltage output to simulate actual operation under different conditions, good regulation, and low ripple characteristics—3% at full load, lower at light loads. Circuits are arranged to deliver both 12 and 24 volts simultaneously. A DC contactor prevents discharge of battery if AC starting switch is open when unit is used as a battery charger or in parallel with a battery for precision regulation.

Quiet operation—rectification provided by famous Mallory magnesium-copper sulphide rectifiers. Made in three types, and designed to operate from 208 and 230- volt or 460-volt, 3 phase, 60 cycle source.

VA1500 net price **$400.00**	**VA3000** net price **$500.00**	**VA4500** net price **$625.00**
VA1500-A net price **420.00**	**VA3000-A** net price **520.00**	**VA4500-A** net price **645.00**

Prices FOB Indianapolis



STATIONARY RECTOPOWER**

Eight Rated Capacities . . . from . . . 6 to 32 Volts DC and 10 to 25 Amperes

A compect, heavy-duty Mallory Dry Disc Rectifier that furnishes constant and adequate AC power. The unit is particularly suited for testing and repairing electrical communications and electronic equipment in all applications employing voltage within specified ranges.

May also be used for the economical and efficient taper charging of batteries.

Requires no special foundation; may be quickly and easily mounted on wall or bench for the most convenient location.

Featuring a variable voltage output to simulate actual operation under different conditions, the power supply has low ripple characteristics—3% at full load, lower at light load. Send for catalog sheet R-659-A.

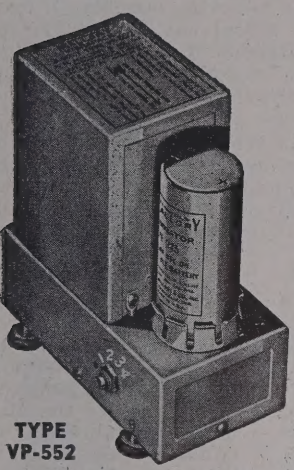
Type	D.C. Output		A.C. Input		Dimensions				Approx. Net Weight	**Net Price††**
	Volts	Amps.	Volts	Phase/Cycle	Length	Depth	Height	Overall Height		
6VA10	6	10	115	1/60	14″	10″	15″	18″	20 lbs.	**$65.00**
12VA10†	12	10	115	1/69	14″	10″	15″	18″	32 lbs.	**95.00**
24VA10†	24	10	115	1/60	20″	12″	15″	18″	60 lbs.	**145.00**
32VA10†	32	10	115	1/60	20″	12″	15″	18″	75 lbs.	**180.00**
6VA25*	6	25	115	1/60	17″	14″	24″	28″	45 lbs.	**125.00**
12VA25*	12	25	115	1/60	17″	14″	24″	28″	72 lbs.	**180.00**
24VA25‡*	24	25	115	1/60	24″	16″	24″	28″	140 lbs.	**265.00**
32VA25†*	32	25	115	1/60	24″	16″	24″	28″	175 lbs.	**335.00**

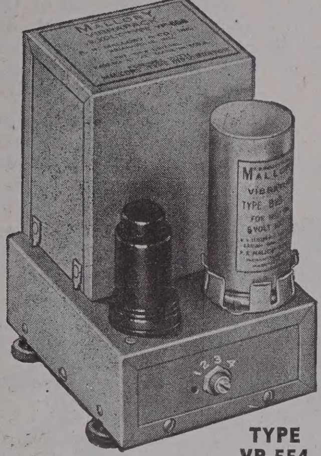
*Fan cooled. †Can be furnished for dual operation, i.e., half voltage, double current. **Reg. U. S. Pat. Off. ††Prices, F.O.B.Indianapolis

Vibrapacks*

P. R. MALLORY & CO. Inc.
MALLORY

*Reg. U. S. Pat. Off.


TYPE VP-552


TYPE VP-554

● Vibrapacks are flexible, HEAVY-DUTY vibrator power supplies designed for providing dependable and low cost high voltage direct current from a low voltage storage battery. Proved efficient and dependable by more than seven years of actual field service. Available in various types and sizes, with outputs up to 60 watts at 300 and 400 volts.

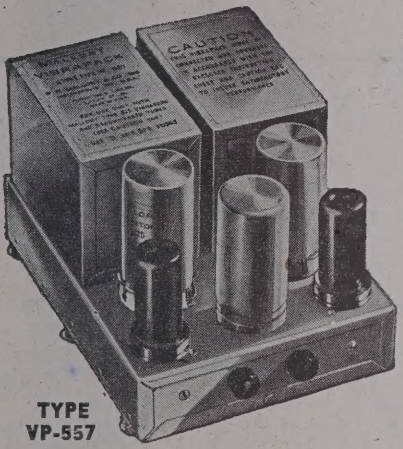
Outstanding Advantages:

1. High efficiency—low battery drain.
2. Dependable—trouble free—time-tested in thousands of installations.
3. Low cost—low maintenance.
4. Compact—light in weight.
5. Ease of installation.
6. Flexibility. Single unit Vibrapacks can be adjusted to give 4 output voltage ranges each.

Applications

Vibrapacks are widely used for furnishing "B" power in the following applications:

Automobile receivers—police, sheriff, amateur short wave, etc.
Aircraft and marine receivers and transmitters.
Farm receivers.
Police mobile two-way equipment.
Automobile P. A. systems.
Military, lighthouse, and forestry service radio communication apparatus.
Miscellaneous electronic applications where commercial power is unavailable.


TYPE VP-557

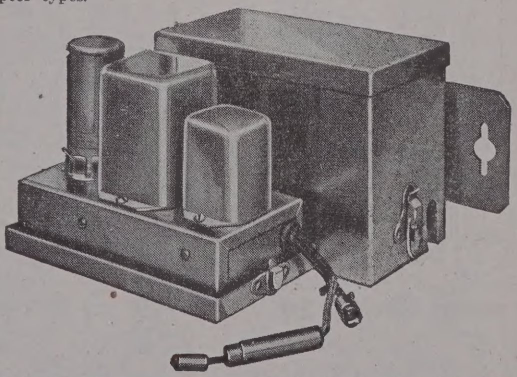
Catalog Number	Nominal Operating Voltage	Nominal Output Voltage	Maximum Output Current	Type	List Price
VP-551	6.3	125-150-175-200	100 ma.	Self-Rectifying	**$16.00**
VP-552	6.3	225-250-275-300	100 ma.	Self-Rectifying	**19.50**
VP-553	6.3	125-150-175-200	100 ma.	Tube Rectifier	**17.00**
VP-554	6.3	225-250-275-300	100 ma.	Tube Rectifier	**20.50**
VP-555*	6.3	300	200 ma.	Tube Rectifier	**40.00**
VP-557*	6.3	400	150 ma.	Tube Rectifier	**40.00**
VP-G556	12.6	225-250-275-300	100 ma.	Self-Rectifying	**20.50**
VP-F558	32.	225-250-275-300	100 ma.	Tube-Rectifying	**21.50**

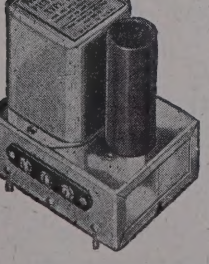
*Special Dual Packs for high output. Tube rectifier types permit "B—" to be isolated from ground if desired. Output voltages indicated are nominal. Actual average output voltages at various loads will be found in the graphs of our Form No. E-555C, when operated at rated terminal voltage. Vibrapacks are supplied complete with special Mallory vibrator. Rectifier tubes included in the interrupter types.

Vibrapacks are equipped with complete, built-in noise suppression equipment. Type VP-555 also includes an efficient low-frequency hum filter. Type VP-557 incorporates the first input filter condenser only. Other Vibrapacks do not include the high voltage hum filter. High voltage filter requirements are similar to equivalent AC power packs.

Manufactured and sold under one or more of the following United States Letters Patent:

No. 1,943,240 No. 2,032,424 No. 2,039,957
No. 2,049,310 No. 2,186,638 No. 2,187,950
No. 2,190,685 No. 2,197,607 No. 2,223,516
No. 2,223,573 et al.





VF-223 Filter

● A complete audio filter system for use with all single-unit Vibrapacks. Designed to give maximum suppression of hum with minimum voltage drop. Especially recommended for applications which are sensitive to hum, or where voltage regulation is important as in Class "B" audio amplifiers.

No. VF-223 Filter. List price....................$8.00

VP-540 Vibrapack—Completely filtered

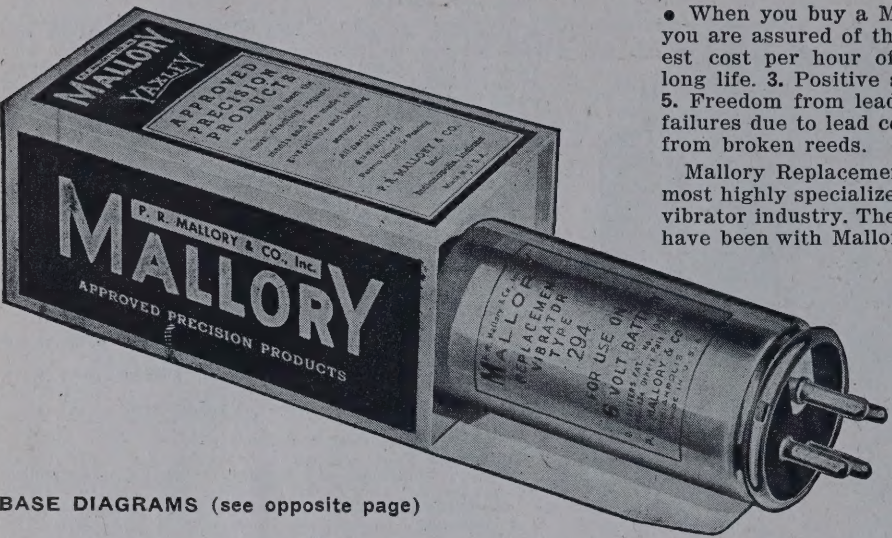
● Designed for use as a complete "B" power unit for automobile, airplane, and marine service. May be used to operate long wave, broadcast-band, and short wave receivers, or any electronic device within its load capabilities. Rigid anchorage of components permits satisfactory operation under conditions of considerable vibration. Completely filtered for both RF and audio so that the hum and hash level is extremely low.

Universal mounting, any position, with horizontal preferred. VP-540 is of the synchronous, or self-rectifying type. Nominal output, 250 volts at 60 m.a. Nominal input, 6.3 volts. Size 7½x3$\frac{15}{16}$x5⅛" high, exclusive of mounting brackets and leads. Weight, 7 lbs., 14 oz.

No. VP-540 Vibrapack. List price..................................$22.50

P.R. MALLORY & CO. Inc.
MALLORY

Vibrators

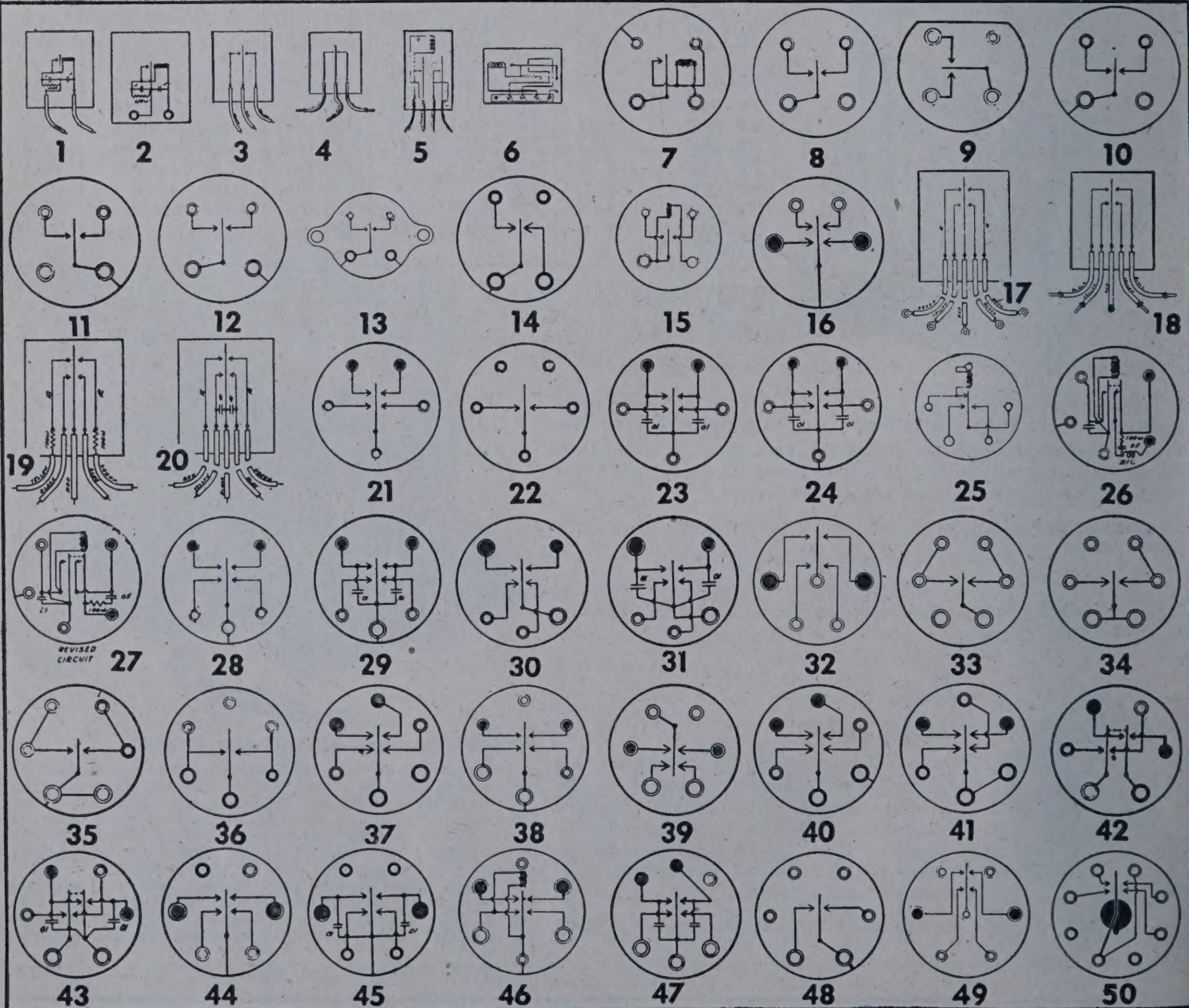

MALLORY
YAXLEY
APPROVED PRECISION PRODUCTS
P. R. MALLORY & CO. Inc.
MALLORY
APPROVED PRECISION PRODUCTS
MALLORY REPLACEMENT VIBRATOR TYPE 294
FOR USE ON 6 VOLT BATT

• When you buy a Mallory Replacement Vibrator you are assured of the following benefits: 1. Lowest cost per hour of actual use. 2. Trouble-free long life. 3. Positive starting. 4. Easy installation. 5. Freedom from lead breakage. 6. Freedom from failures due to lead corrosion. 7. Absolute freedom from broken reeds.

Mallory Replacement Vibrators are built by the most highly specialized group of technicians in the vibrator industry. The majority of these employees have been with Mallory since the beginning of the vibrator industry. Such a highly trained personnel can only assure the highest quality of workmanship possible.

For recommendations by receiver make and model number, see your distributor for the Mallory Vibrator Guide or consult the Mallory Radio Service Encyclopedia.

BASE DIAGRAMS (see opposite page)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Vibrators

P. R. MALLORY & CO. Inc.
MALLORY

MALLORY REPLACEMENT VIBRATOR SPECIFICATIONS

Int.—Interrupter **Syn.—Synchronous**

Type No.	Volt.	Type	Base Dia.	Size*	List Price
222	6	Syn.	20	$4\frac{7}{8}$ x $1\frac{7}{8}$ x $1\frac{13}{16}$	6.60
245	6	Syn.	21	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
245A	6	Syn.	21	$1\frac{15}{16}$ dia. x $3\frac{1}{2}$	5.95
245C	6	Syn.	28	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
W245	4	Syn.	21	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
W245A	4	Syn.	21	$1\frac{15}{16}$ dia x $3\frac{1}{2}$	5.95
246	6	Syn.	38	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
246A	6	Syn.	38	$1\frac{15}{16}$ dia. x $3\frac{1}{2}$	5.95
W246	4	Syn.	38	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
247	6	Syn.	46	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
F247	32	Syn.	46	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	6.60
248	6	Syn.	44	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
249	6	Syn.	49	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
G249	12	Syn.	49	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	7.15
253	6	Int.	12	2 dia. x $4\frac{1}{2}$	4.75
253T	6	Int.	13	2 dia. x $4\frac{5}{8}$	4.75
253Y	6	Int.	8	$1\frac{3}{4}$ dia. x $4\frac{1}{4}$	3.55
264	6	Syn.	38	$1\frac{1}{2}$ dia. x $2\frac{7}{8}$	5.95
270B	6	Syn.	23	2 dia. x $4\frac{1}{2}$	7.15
271	6	Syn.	24	2 dia. x $4\frac{1}{2}$	7.15
Adapter	......	......	......	....	1.20
271HD	6	Syn.	24	2 dia. x $4\frac{1}{2}$	7.15
273C	6	Syn.	29	2 dia. x $4\frac{1}{2}$	6.60
273D	6	Syn.	31	2 dia. x $4\frac{1}{2}$	6.60
286S	6	Syn.	44	2 dia. x $4\frac{1}{2}$	6.60
292	6	Int.	3	$1\frac{1}{2}$ x $1\frac{3}{8}$ x $2\frac{7}{16}$	4.15
294	6	Int.	10	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	3.55
F294	32	Int.	10	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.35
296	6	Int.	35	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	3.55
F297	32	Int.	33	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
299	6	Int.	34	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	4.75
500P	6	Int.	10	$2\frac{3}{8}$ dia. x $4\frac{3}{4}$	3.00
F502P	32	Int.	9	$1\frac{5}{8}$ dia. x $3\frac{5}{8}$	7.15
505P	6	Int.	8	$1\frac{15}{16}$ dia. x $3\frac{1}{2}$	3.00
506P	6	Int.	36	$1\frac{15}{16}$ dia. x $3\frac{1}{2}$	4.75
507P	6	Int.	10	$1\frac{5}{8}$ dia. x $4\frac{3}{4}$	3.00
509P	6	Int.	8	$1\frac{1}{2}$ dia. x $2\frac{7}{8}$	3.00
514	6	Syn.	30	$1\frac{15}{16}$ dia. x $3\frac{1}{2}$	5.95
716	6	Syn.	30	$1\frac{15}{16}$ dia. x $3\frac{1}{2}$	5.95
†725C	6	Syn.	49	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	6.60
†G725C	12	Syn.	49	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	7.80
728A	6	Syn.	37	2 dia. x $3\frac{1}{2}$	5.95
742	6	Syn.	32	$1\frac{1}{2}$ dia. x $2\frac{7}{8}$	5.95
743	6	Syn.	38	$1\frac{1}{4}$ dia. x $3\frac{1}{8}$	5.95
744	6	Int.	22	$1\frac{1}{4}$ dia. x $3\frac{1}{8}$	4.75
748	6	Syn.	44	$1\frac{1}{2}$ dia. x $2\frac{7}{8}$	5.95
G749C	12	Syn.	21	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	7.80
†825C	6	Int.	8	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.40
†826C	6	Int.	8	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	4.75
†F826C	32	Int.	8	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
†G826C	12	Int.	8	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	5.95
839	6	Int.	8	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	4.15
852	6	Int.	14	$1\frac{5}{8}$ dia. x $3\frac{5}{8}$	3.55
853	6	Int.	10	$1\frac{5}{8}$ dia. x $3\frac{5}{8}$	3.55
854	6	Int.	11	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	3.55
859	6	Int.	8	$1\frac{1}{2}$ dia. x $2\frac{7}{8}$	3.55
860	6	Int.	14	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	3.55
870	6	Int.	14	$1\frac{1}{2}$ dia. x 3	3.55
901M	6	Int.	8	$1\frac{1}{2}$ dia. x $3\frac{1}{4}$	3.00
903M	6	Int.	8	$1\frac{1}{2}$ dia. x $2\frac{7}{8}$	3.00
952W	6	Syn.	16	$1\frac{3}{8}$ dia. x $2\frac{7}{8}$	5.95
953W	6	Syn.	16	$1\frac{1}{2}$ dia. x $3\frac{5}{16}$	5.95
954	6	Syn.	39	$1\frac{1}{2}$ dia. x $3\frac{5}{16}$	5.95
1100	6	Int.	8	$1\frac{5}{16}$ dia. x $2\frac{3}{8}$	3.55

† Hermetically sealed construction. * Can sizes may be changed from those listed above in the interest of conserving material.

REPLACEMENT CHART

TYPE NO.	REPLACEMENT
*221	292
*245SW	245
*G245	G749C
*F251	F294
294SW	854
501P	853
*508P	509P
510P	859
722A	728A
725	725C
G725	G725C
825	825C
826	826C
F826	F826C
G826	G826C
850	859
*G850	G826C
*866	859
868	870
869	859
*902M	903M
951P	246

* Limited Supply Available.

P. R. MALLORY & CO. Inc.
MALLORY

Vibrators

MALLORY REPLACEMENT VIBRATOR CHART

for Auto Radio and Battery-Operated Household Receivers

Models	Replacement
ACRATONE	
L7, X6, Z4, Z5, 32C, 33C	245C
40	294
49, 51, 92, 92A, 94A, 460	292
ADDISON	
531, 631	292
N655	285XS
ADMIRAL	
B3	245
E6	246A
L7, M5, X6, X641, X741, Z4, Z5	245C
U6	294
6A, 6D	850
6P, 6PU	245C
7A	850
7J	245C
55, 66, 69, 77, 78, 88	850
660, 770, 780, 880, 512-6D	850
950-6A, 965-6A	850
AIRCASTLE	
BA41, L7	245C
U6	294
X6, Z4, Z5	245C
14-112S	294
14-129	245
603	292
AIRCHIEF—See Firestone	
AIRLINE—See Montgomery-Ward	
AIRMATE—See Buick, Oldsmobile, and Pontiac	
ALL-AMERICAN MOHAWK	
A60	292
U50, U500	222
ALLIED RADIO	
A9728, A9729, A9730	245C
A9768, A9769, A9770	245A
A9776, A9777, A9778	245C
A9780, A9781	850
A9782, A9783, A9784, A9820	294
A9833, A9834, A9835, A9836	245A
A9837, A9838	245A
A9861, A9862, A9863, A9864	245C
A9865, A9866	245C
A9880	294
A10508	245C
A10760	264
A10777, A10778	245A
A10782, 10783	294
A10798, A10799	850
A10818	246
A10818A	245A
A10822	264
A10851, A10852	850
A10871	294
A10890	245A
B10520	245
B10521	245
B10545, B10546, B10547	245C
B10548, B10549	245C
B10550	294
B10551, B10552	850
B10553	245C
B10575	294
B10600, B10601, B10602	245A
B10603, B10604, B10605	245A
B10606, B10607, B10608	245A
B10609, B10610, B10611	245A
B10782	850
B10784	850
B10786	850
B10790	850
B10791	850
D130	850
D131, D132	850
E10719, E10720, E10721	246
E10725	264
E10727	246
E10751, E10752	850
E10786	294
E10790	245A
E10825, E10826, E10827	246
E10828, E10829, E10830	246
E10831, E10832	246
E10882A, E10883A, E10884A	294
E10885A, E10886A, E10887A	294
E10890, E10891	850
E10906, E10907	245A
F9451	292
F9515	F221
F9541, F9551	292
F9777	F221
G9515, G9517, G9599	292
G9615	F251
G9881, G9882	292
H9744, H9745	245C
ALLIED RADIO— *Continued*	
H9766	294
L7	245C
T (Auto)	292
U6	294
X6, Z4, Z5	245C
6P	245C
6820	285XS
AMRAD	
F546	246
ANDREA	
610, 611, 612, 613 (C6B) FM235	245
616, 617, 618 (D6B) FM235	245
626, 627, 628 (E6B) FM477	246
ARCADIA—See Wells-Gardner	
ARVIN (Noblitt-Sparks)	
5, 6	850
7	294
7A, 8A, 9A	850
10A	292
15 (1st)	296
15 (2nd)	292
16	292
17	294
18	294
19	850
20A, 20B	292
22A	850
25 (1st)	296
25 (2nd)	292
27	294
28	294
29	850
30A, 30B	292
32	850
33	294
35 (1st)	296
35 (2nd)	292
37	294
38, 39, 42	294
RE44	850
44C	294
RE45	850
45 (1st)	296
45 (2nd)	292
RE46	294
RE54	850
RE58	850
RE59	850
RE60	850
61B, 62B	245
510	850
517B	245
518B	245
520	850
527B	245
610	850
617B	245
620	850
627B	245
710	850
720	850
810, 820, 821	850
ATWATER KENT	
126	294
135Z	F297
136	294
215Z	F297
237Q	294
305Z	F297
416	294
424	226
446, 467Q	294
534	226
556	294
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666, 776	296
816	226
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A5A3	247
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B6	297
23S7 (1st)	302S
23S7 (2nd)	292
33A6	223
33S6 (1st)	302S
33S6 (2nd)	292
33S7 (1st)	302S
33S7 (2nd)	292
33S8—32 Volt (1st)	F312
33S8—32 Volt (2nd)	F221
AUTOCRAT	
5	292
92	850
106	246A
505, 518, 618	294
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J80	503
JR (AR224), Junior, Jr. Twin 6	292
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M60	294
M66	850
M70	294
M77	850
M80	294
911	850
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54, 64	294
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54, 64	294
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566	294
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567A	294
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579	294‡
580	299
611A	246
660	220B
661, 666, 666A, 666B, 667	294
670, 670A	299
676A	294
677	294
678	248
679	294
680, 680A, 680B, 680C, 690	299
706 (Export)	246
751A	294
804, 823A (Export)	246
880A, 880B, 880C, 880D	299
881	294
BENDIX	
PR2A (Police)	249
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45A, 45C	271
79C	253
139 (V, VC, VT, VTC)	253Y
140A	271
149 (V, VC, VT, VTC)	253Y
150 (Type 1)	210
150 (Type 2), 160	271
169 (V, VC, VT, VTC)	253Y
178	296
179	253
189HB, 189HR	249
524A, 536	253Y
600	245
634A, 636, 637	253Y
736, 737, 738, 838	294
BUICK	
544245, 544246	273C
980393	221
980441, 980455, 980459	222
980507, 980508, 980509	273D
980525, 980526, 980529	273D
980534, 980535	716
980566, 980567	514
980598, 980620, 980650	716
980690, 980691	716
1291344, 1291345	273C
1304873, 1304874	514
1308221, 1314523	716
CADILLAC	
06W	210
062	205
072	205
072A	210
5X, 6KB	248
6R, 6S, 6U2	253
2721	205
2722	210
56VI	221
77	852
1425470, 1425471	248
1433970 (C8)	954
7232502	514
7238350, 7238399	868
7240371, 7240427	868
7241951	868
CANADIAN GENERAL ELECTRIC	
H5M, K6M, K7M	294
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CAVALCADE	
54, 64, 359	294
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CHAMPION	
500, 501, 600, 601, 639A, 639B	294
CHEVROLET	
364441	221
600153	222
600249, 600565, 600566	222
601038, 601176, 601177	273C
601525, 601574, 601586	273C
601662, 601814	273C
985100, 985200	853
985252, 985253, 985254	852
985255, 985283, 985284	852
985285, 985286	852
985300, 985301	273D
985400	273C
985424, 985426	852
985425	869
985536	839
985537	869
985538	869
985694	839
985695	869
985696	869
985697	839
985792	868
985793	850
985794	839
CHRYSLER	
D (CDS), G (CGD), G (CGDU), G-122 (CGD-122), G-122 (CGDU-122), R (CRD), T-2 (CT-2), T-5 (CT-5)	500P
T-10 (CT-10)	507P
T-11 (CT-11)	500P
C1423, C1450, C1452, C1550	505P
C1606	508P
C1608	505P
C1708	509P
C1808	509P
25C6	952W
830843	869
Mopar 600	866
Mopar 800	509P
CLARION	
31, 37	246
60, 61, 70, 71, 80, 81	294
100AR	294
453, 562	246
646, 746, 846	294
TC50 (4 prong)	294
TC50 (6 prong)	296
CLIMAX	
AKE	246
66	294
CLINTON	
6V6	245
803, 1935, 1936 Models	294
COLONIAL	
106B	221
150	271
164	220B
164B	296
349, 355, 361-1, 361-2	273C
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CORD	
A255, A355, A455	273C
CORONA	
212, 214	246
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CROSLEY	
A155	247
A156	853
A157	294
A158	850
A160	850
A166	273C
A167	853
A168, A169	850
A177	853
A255	273C
A258, A259	850
A266	853

Vibrators

P. R. MALLORY & CO. Inc.
MALLORY

MALLORY REPLACEMENT VIBRATOR CHART

for Auto Radio and Battery-Operated Household Receivers—Continued

Models	Replacement
CROSLEY—*Continued*	
A267, A268	850
A355	273C
A358	850
A366, A455	273C
A459	850
A555	273C
4A1	247
5A1	223
5A3	247
6B1 (6SA4 Syncrotube)	247
98, 99	223
102	223
103	223
117 Power Pack	W246
119, 159	F223
416, 435, 546	246
557	W246
587	850
636	246
667	850
5587	850
6615	246
DEFOREST (Canada)	
510, 510A	223
513A, 513B, 513C, 513D	223
DELCO	
66	220B
2035, 4036	221
4037, 4038	222
626, 627, 628, 629	273C
630, 631, 631A, 632, 633	853
634, 635	273C
R640, R641, R642, R643, R644	852
R663, R664, R665, R666, R667	852
R668, R669, R673	852
R675, R676, R677, R678	860
R685, R686, R687, R688, R695, R696, R697	868
R700, R701	868
3203, 3204	F247
4049, 4050, 4051	F223
R6010	245A
R6011, R6012, R6015	245A
DESOTO— (Also see Philco)	
G (CGD), G (CGDU), G-122(CGD-122),G-122 (CGDU-122), R (CRD), T-2 (CT-2), T-5 (CT-5)	500P
T-10 (CT-10)	507P
T-11 (CT-11)	500P
C1450, C1452	505P
C1550	505P
C1606	508P
C1608	505P
C1708	509P
C1808	509P
DETROLA	
6A	220B
6M, 6R	294
14-112S	294
14-129	245
111, 112	294
144, 144B, 144C	245
145B, 145CR	245
166	294
180, 184	245
297	248
346	294
1100, 1100A	220B
DEWALD	
52	221
61	292
517, 517R, 527	294
605, 606, 607,617	294
702	294
DODGE—(Also see Philco)	
G (CGD), G-122 (CGD-122), R (CRD), T-2 (CT-2), T-11 (CT-11)	500P
C1450, C1452	505P
C1550	505P
C1606	508P
C1608	505P
C1708	509P
C1808	509P
C1809	509P
DOMINION ELECTRO-HOME—See Phonola	
DOOLITTLE AND FALKENOR	
RVR (10 Meter Police)	294
ELECTRONIC	
331	292
332—32 Volt	F221
EMERSON	
AS179	294
E128	294
F7 (Chassis)	222
U154, V154, V155	294
1A	296
5A	277S
6A	253Y
34F7, 101F7	222
667	296
678 (Types 1 and 2)	222
965	296
EMPIRE	
60	292
ERLA (Erla-Sentinel)	
10M, 10MF	294
11M	294
31B, 34B, 49B, 50B	245A
63B, 66B, 66BE, 68, 68B 68BE	245A
73B, 78B, 78BE, 88BE, 96BE	245A
100X	294
119B, 130B, 130BE, 140B, 140BE	245A
144X, 144XE	294
186B, 186BE	245A
191B, 191BE	245A
197X	294
236, 256	245A
237, 257	294
600, 602	292
603	292
5500	294
5600	F251
6100, 6101, 6102	F221
FADA	
101 (RK), 102 (RP), 104, 104B (RV)	221
126, 127, 128 (NK)	245A
163	245
166 (Motoset)	253Y
246	W245
266, 266SD, 266SG	294
267 Series	294
1246	W245
FAIRBANKS-MORSE	
B6	297
C6	294
4B, 6C (6CC-2B), 6C (6CT-4B)	246
23S7 (1st)	302S
23S7 (2nd)	292
33A6	223
33S6 (1st)	302S
33S6 (2nd)	292
33S7 (1st)	302S
33S7 (2nd)	292
33S8 (1st)	F312
33S8 (2nd)	F221
43 (43T1B), 43 (43C1B)	246
64 Auto	294
67 (6717, 6746)	246
73 (73C3B, 73T3B)	246
74 Auto	294
346, 347	297
816 (32 V.), 840 (32 V.)	F221
6717, 6746	246
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FIRESTONE (Airchief)	
AU10	264
Traveler 54, 64	294
R131	294
R132	289Y
R133	294
R143	294SW
R178	294SW
1314	294
R1322	289Y
R1332	294
R1431	294SW
R1781	294SW
S7350-1, S7350-2	859
7406-1, 7407-1	245
7407-3 (536)	852
S7407-5	868
7407-6	854
S7407-9	742
S7424-3, S7428-1	246
S7425-3	850
FORD	
Glove Box (Zenith)	296
Glove Box (Police)	220B
Glove Box (40-18805 Maj.)	220B
N (Center Cont.), N-FND.	500P
F1440, F1440X, F1442	505P
F1442X, F1540	505P
F1640	508P
F1740	509P
F1840	509P
FT-6, FT-9, FT-9X	500P
6F1	850
FORD—*Continued*	
6F1D	850
6M390 (Zenith)	853
6MF490	850
6MF690	1100
FORDSON	
FP 32 V. (250001 and up)	F221
FREED	
A7, A9	210
GALVIN—See Motorola	
GAMBLE-SKOGMO	
5C6 (C6)	952W
5Y (25Y1)	286S
5Y (25Y1)—12 Volt	G286S
6B	F251
6C1	294
6C7	248
6C9	248
6J	248
6K	248
6L, 6R	294
6S, 6U	253
15C6	952W
25Y1	286S
25Y1 (12-Volt)	G286S
26B5	F251
26R1	294
26S1	253
31BT, 34BT	245A
46L1	294
489, 504	246
566	294
577A, B, C, D	294‡
580	299
660	220B
666, 667B	294
670, 670A	299
677A, 677B	294
678A, B, C	248
680 Auto	299
803A, 803B	294
6100	F221
GAROD	
2B6, 2B6-1, 3B6, 3B6-3	W245
37B, 37D	W245
1739	246
GENERAL ELECTRIC	
4SR1A2 (M1-7630)	743
B40, B52	271*
C41	271*
C60	253
C61	224
D50, D51, D52	286S
D72	294
FA60, FA61, FA80	248
FB52, FB53, FB56, FB57	W246
FB72, FB73, FB76, FB77	W246
GA62	854
JA64	854
JB72, JB372	245A
M58, M60	294
N51	248
N60	294
U51, U55	246
X127	246
GENERAL MOTORS (Canada)	
134, 134B	223
135	223
136, 137, 138	273C
GILFILLAN	
X	292
7A	296
8X	294
67A, 67R, 77R, 87R	294
700, All 1933, 34, 35, and 36 Models	296
GOLDENTONE AND GOLD MEDAL	
L7, Z4, Z5, X6	245C
U6	294
GOODRICH—(Also see Motorola)	
R420, R421	245C
R422	850
GOODYEAR	
504	246
566	294
580	299
660	220B
661, 666 (1 and 2), 667	294
670	299
680, 690	299
880	299
01018 (Runs 1, 2, Ch. 880)	299
01020 (Ch. 881)	294
01554 (Ch. 505)	850
010219 (Ch. 415A, Ch. 415B)	246
GOODYEAR—*Continued*	
010219 (Runs 3, 4, Ch. 489A)	246
010221 (Ch. 804)	246
015110	246
015120	246
015130	850
100502 (Double Eagle)	294
101500, 101501	850
GRAHAM—(Also see Philco)	
A255, A355, A455	273C
G1418, G1436, G1528	505P
G1628	508P
GRAYBAR	
150 Chassis	271
GREBE	
61R	292
GRIGSBY-GRUNOW—See Majestic	
GRUNOW (General Household Utilities)	
4NB	245
5AB	294
7NB, 410, 411	245
508, 509	294
614, 618	294
625	273D
711	245
GULBRANSEN—(Also see Wells-Gardner)	
V6Z2, Z6Z1	292†
06W	210
062A	205
HALLICRAFTERS	
S30 (Radio Compass)	725
HALSON	
Roadmaster, 199	220B
HARLEY-DAVIDSON	
All Models Prior to 1937	271HD
AVR10A, EG45A, M1-7815, M1-7815A	743
HERBERT H. HORN	
535, 536, 537, 538	294
HOWARD	
Auto (Series 1)	249
HA1 (670A)	299
HA2 (52, 502)	292
HA3, HA4	294
HA6	249
HA7	294
HA8	294
HA9	294
Highwayman	299
6B	245C
6B-A, 6B-T	246
7B-T	245C
52, 502	292
565 (6-Volt)	850
565 (12-Volt)	G850
765 (6-Volt)	850
765 (12-Volt)	G850
HUDSON-TERRAPLANE	
CB6, DB37, DB38	249
DB39	854
DB40	854
DB41	854
DB42	1100
H6, JA40	294
JA41	854
SA37	249
SA38	294
SA39	854
SA40	854
SA41	854
650HD, 651HE, 660TD, 661TE	292
666, 668, 680	294
Majestic Head	220B
HUPMOBILE—(Also see Philco)	
G (HGD), G-122 (HGD), H (HHD), H-122 (HHD), R (HRD), T-2 (HT-2)	500P
T-11 (HT-11), T-11X (HT-11X)	507P
INTERNATIONAL—(Kadette)	
K6 (K60-St. Regis)	296
JACOBS	
Nine	246
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Vibrators

P. R. MALLORY & CO. Inc.
MALLORY

MALLORY REPLACEMENT VIBRATOR CHART

for Auto Radio and Battery-Operated Household Receivers—Continued

Models	Replacement
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57, 57B, 63, 65, 66	296
88, 150, 160, 180	296
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LAFAYETTE (Radio Wire Tele., Wholesale Radio)	
AM20	296
B62	286S
B64	F251
B90 (N Late), B90 (R Early)	294
B92	248
BB75	248
C60	294
J50, J60	285XS
L22, L23	292†
L30	253
LW10	294
M44	285XS
S17762	210
062, 062A	205
6S, 26S1	253
LARKIN	
91	292
LaSALLE—(Also see Cadillac)	
5X, 6KB	248
6R, 6S	294
1425470, 1425471	248
1939 Master	248
LEWOL	
9101, 9102	292
9682	285XS
LINCOLN—(Also see Ford-Lincoln)	
L1420, L1424 (Lin.-Zephyr)	505P
L1425, L1427 (Lin.-Zephyr)	505P
L1429, L1460, L1560 (Lin.-Zephyr), L1660	505P
T-14 (LT-14X3, LT-14X4)	500P
8ML692	850
L. TATRO	
AQ69, BQ69	744
C625, D625	F251
E83 (Commander)	F204
E293 (Admiral)	F204
EN64, EN84	246
EQ39	F294
F725	F251
F913 (Captain)	F204
FQ39	F294
G63 (Pilot)	F204
H465, I465	271
IN25	F251
J5 (Pilot)	F204
J665, K665	271
L54 (Lt. Governor)	F211
L74 (Lt. Governor)	F251
M4616 (1st)	275XS
M4616 (2nd)	285XS
N54 (Governor)	F211
N74 (Governor)	F251
N065, O065	246
O84 (President)	F211
O94 (President)	F251
O4626 (1st)	275XS
O4626 (2nd)	285XS
P54 (Recorder), P64	F251
P4626 (1st)	275XS
P4626 (2nd)	285XS
Q5636, R5636, S5636 (1st)	275XS
Q5636, R5636, S5636 (2nd)	285XS
SP67	744
T6216	F251
TP67	744
U5226, V5226	F251
W6236, X6236, Y6236	F251
6A	271
MAJESTIC (Grigsby-Grunow)	
66, 116, 116A, 118, 118P, 40-18805	220B
490, 491, 493 (Trans. Type)	F220C
490, 491, 493 (Plug-In)	F294
MALLORY	
"B" Eliminators	
Types 1 through 4	201
Types 5 and 6	205
Types 10 through 14 (1933-34)	210
Vibrapacks	
VP551, VP552	725
VP553, VP554, VP555	825
VP-G556	G725
VP557	825
VP-F558	F826
6A200	725
6A225	725
6A300	725
6A325	725
MALLORY—Vibrapacks —*Continued*	
12A200	G725
12A325	G725
12A350	G725
6B150	826
6B200	826
6B250	826
12B200	G826
12B250	G826
12B300	G826
32B225	F826
32B250	F826
MARCONI (Canada)	
5, 6	W245
42	271*
48	292
69 Auto	294
93, 94	246
95, 103, 165, 291, 294	294
MIDWEST	
5-36, 6-37 (Auto)	294
7-36 (Batt.), 7-37 (Batt.)	245
7-38 (Batt.-Export)	245
7-39 (Batt.)	245
8-38 (Batt.), 12-38 (Batt.)	245
62B	850
MISSION BELL	
10A, 11, 12, 14, 16	292
17, 18	294
25A	292
638, 638A, 3716	294
3817, 3817A, 3818	294
MOHAWK (Canada)	
568B	245
MONARCH	
L7, Z4, Z5	245C
U6	294
54, 64	294
MONTGOMERY-WARD (Airline)	
Auto Radio, 62, 062	205
87	292
102	299
62-118	253
62-130	220B
62-136, 62-138	F251
62-166	253
62-199	286S
62-202, 62-236, 62-242	294
62-258	248
62-263	294
62-264, 62-280	246
62-280 (Series B)	246
62-282, 62-284	246
62-292, 62-294	246
62-334	952W
62-345, 62-356	246
62-363	246
62-364	248
62-369	248
62-373, 62-374	246
62-376	246
62-425	246
62-446	246
62-459A	246
62-463	246
62-465, 62-466	246
62-486	246
62-552	246
62-553	294
62-554	953W
62-650	246
62-651, 62-652	246
62-653	248
62-750, 62-751	850
04BR567A	294‡
04BR570A	850
04BR675A	850
04BR676A	850
04BR678C	248
04BR679A	294‡
14BR-681A	294‡
14BR-682A	748
14BR-688A	850
14BR-689A	850
93BR393A	246A
93BR564A	850
93BR658A	246A
93BR666A	246A
5Y (25Y1)	286S
6U	253
MOTOMASTER	
611 DeLuxe	504
MOTOROLA (Galvin)	
Dual 6	253
Super 6	270B
Twin 8	253
Golden Voice, Golden Voice 1937	901M
8-30, 8-40	902M
8-50, 8-60	902M
8-70, 8-80	901M
MOTOROLA (Galvin)— —*Continued*	
9-24, 9-24A	903M
9-29, 9-39, 9-44, 9-49	902M
9-69	901M
15F (Ford-Mercury)	902M
16C (Chevrolet)	902M
17D (Plymouth)	902M
18O (Oldsmobile)	902M
19B (Buick), 20P, 21L	901M
22S	902M
24K (Packard)	901M
25-F (Ford), 25-N (Nash and Lafayette), 26-C6 (Chev., 6-Tube), 26-C7 (Chev., 7-Tube), 27-D, 27-D6, 27-D6-41 (Chrysler Cars), 28-O (Oldsmobile)	902M
29-B (Buick)	901M
29-B6 (Buick), 30-P (Pontiac), 34-K6 (Packard 6-Tube), 34-K7 (Packard 7-Tube)	902M
34, 35	901M
35F	902M
35N	903M
36C1, 36C2	902M
37D1	901M
37D2	902M
38O	902M
39B1	901M
39B2	902M
40P	902M
42S	902M
43H	902M
44	235
44A	270B
44K	902M
45	901M
45N	903M
46C	902M
47D1, 47D1A, 47D2, 47D2A	902M
48O2	902M
49B, 49BU	901M
50	901M
50P, 52S	902M
55, 55A	231
56T, 56Y	246
57	253T
60	901M
61	302S
62	253T
65	901M
66	270B
70	901M
75	253T
77	230
77A, 77A Series "B"	270B
79	253T
80	901M
88	302S
90 (Golden Voice)	901M
100, 110	253T
250	903M
251, 300	903M
301, 302	902M
350	902M
351	902M
352	903M
400	902M
401, 402	902M
450	902M
451	903M
496BT1	246A
500	902M
501	901M
550, 550A	902M
551	901M
552	902M
700	901M
701	901M
Motorola Police	901M
P-69-12	902M
P-69-13	902M
T-69-20	901M
MOTOSET—See Fada	
MUSIC MASTER	
Ten-Ten	292
NASH	
AC3689	249
AC3789	850
AC4289	246
AC4389	850
AC6001	850
AC6011	850
6MN595	850
6MN695	1100
7MN596	850
C (NCD), D (NDD), D-122 (NDD), J (NJD), Q (NQD), T-7 (NT-7), T-8 (NT-8), T-12 (NT-12X, NT-12X2), T-15 (NT-15, NT-15X2), AC-989, AC-1089, AC-1289	500P
NASH—*Continued*	
N1418, N1433, N1433H, N1434, N1434H, N1514, N1524	505P
NOBLITT-SPARKS—See Arvin	
NORTHERN ELECTRIC (Canada)	
33, 40 (Auto)	271*
61 (Auto)	296
OLDSMOBILE	
393884, 393885, 405045	273C
405046, 405047, 405057	273C
405062, 405063	273C
980393	221
980441, 980455, 980459	222
982006, 982007, 982008	273C
982043, 982044, 982045	852
982083, 982084, 982085	852
982126	852
982127	868
982153	852
982160	870
982161	868
982215	870
982216	868
982282	870
982283	868
PACIFIC	
H6-37, H7-37	294
M7-38	294
6V	294
21, 22, 23, 25	245
80-37 Series	245
101	292
101B, 101C	294
102 (Knight 6-Tube)	292
102B	294
301	294
682	285XS
PACIFIC RADIO EXCHANGE	
Spero-Autodyne	292
PACKARD BELL	
25 (2 Types), 65, 67, 75	294
76 (Auto)	850
78	294
PACKARD MOTOR CAR	
B (PBD), H-122 (PHD-122), T5 (PT-5), T-14 (PT-14)	500P
P1417, P1421, P1422, P1426, P1430, P1432, P1432H, P1439, P1517, P1530, P1535, P1617, P1630, P1635	505P
P1835	509P
PA333915 (Early), PA333915 (Late "R"), PA351099, PA351100, PA351101, PA351102, PA353832	854
PACKARD RADIO	
6-Tube Auto	294
PARMAK (Parker-McCrory)	
6C, 6D	850
BA41	245C
76	246
PATTERSON	
77B, 77BA, 78B, 79B	245
80B, 168, 268	245
PHILCO (U. S. and Canada)	
Custom-Built Auto Receivers—Chrysler	
D (CDS), G (CGD), G (CGDU), G-122 (CGU-122), R (CRD), T-2 (CT-2), T-5 (CT-5)	500P
T-10 (CT-10)	507P
T-11 (CT-11)	500P
C1423, C1450, C1452, C1550	505P
C1603	508P
C1708	509P
C1808	509P
DeSoto	
G (CGD), G (CGDU), G-122 (CGD-122), G-122 (CGDU-122), R (CRD), T-2 (CT-2), T-5 (CT-5)	500P
T10 (CT-10)	507P
T-11 (CT-11)	500P
C1450, C1452	505P
C1550	505P
C1606	508P
C1608	505P
C1708	509P
C1808	509P

Vibrators

P. R. MALLORY & CO. Inc.
MALLORY

MALLORY REPLACEMENT VIBRATOR CHART

for Auto Radio and Battery-Operated Household Receivers—Continued

Models	Replacement
PHILCO—*Continued*	
Dodge	
G (CGD), G-122 (CGD-122), R (CRD), T-2 (CT-2), T-11 (CT-11)	500P
C1450, C1452	505P
C1550	505P
C1606	508P
C1608	505P
C1708	509P
C1808	509P
C1809	509P
Ford	
N (Center Control), N-FND	500P
F1440, F1440X, F1442, F1442X, F1540	505P
F1640	508P
F1740	509P
F1840	509P
FT-6, FT-9, FT-9X	500P
Graham	
G1418, G1436, G1528	505P
Hupmobile	
G (HGD), G-122 (HGD-122), H (HHD), H-122 (HHD-122), R (HRD), T-2 (HT-2)	500P
T-11 (HT-11), T-11X (HT-11X)	507P
Lincoln, Lincoln-Zephyr	
L1420, L1424, L1425, L1427, L1429, L1460, L1560, L1660	505P
T-14 (LT-14X3, LT-14X4)	500P
Nash	
C (NCD), D-122 (NDD-122), J (NJD), Q (NQD), T-7 (NT-7), T-8 (NT-8), T-12 (NT-12X, NT-12X2), T-15 (NT-15, NT-15X2)	500P
N1418, N1433, N1433H, N1434, N1434H, N1514, N1524	505P
Packard	
B (PBD), H-122 (PHD-122), T-5 (PT-5), T-14 (PT-14)	500P
P1417, P1421, P1422, P1426, P1430, P1432, P1432H, P1439, P1517, P1530, P1535, P1617, P1630, P1635	505P
P1835	509P
Pierce-Arrow	
E (MED), E-122 (MED-122), T-3 (MT-3), T-14 (MT-14X4)	500P
M1412, M1435	505P
Plymouth	
G (CGD), G-122 (CGD-122), R (CRD), T-2 (CT-2), T-11 (CT-11)	500P
C1450, C1452	505P
C1550	505P
C1606	508P
C1608	505P
C1708	509P
C1808	509P
Reo	
T-3 (RT-3), T-14 (RT-14X)	500P
R1415	500P
Studebaker	
C (SCD), C-122 (SCD-122), D (SDD), J (SJD), Q (SQD), T-3 (ST-3), T-7 (ST-7X), T-12 (ST-12), T-15 (ST-15)	500P
S1416, S1431, S1437, S1516, S1526	505P
S1616, S1622	508P
S1722	509P
S1825	509P
S1826	509P
Willys	
W1419	505P
Universal Auto Receivers	
AR-1 AR-2, AR-3, AR-4, AR-5	509P
AR-6, AR-7, AR-8, AR-9	509P
PHILCO—*Continued*	
AR-10, AR-40, AR-45, AR-50, AR-55, AR-75	509P
Transitone, 2, 3, 5, 6, 7, 8, 9, 10-121, 10-122, 11-121, 11-122, 12	500P
700, 800, 800 (122), 802, 805, 806, 808, 809, 816, 816B	500P
817, 818, 818K, 819, 819H	501P
826, 827, 827K, 828, 828K	505P
920, 921, 922, 926, 927, 928, 928K	508P
931, 932, 933	509P
936, 937, 938K	508P
Police Receivers	
810PA, 810PB, 810PV	500P
811PA, 811PB, 811PV	507P
821P, 821PV	506P
Household Receivers	
32	F502P
37-34, 37-624, 38-34	951P
38-35 (121)	510P
38-39 (121)	951P
38-40 (121)	510P
38-624	951P
39-744	951P
40-748	951P
624	P285Y
Canadian Models Only	
37-3624, 38-C624	951P
3816	500P
3817	501P
3827	505P
PHONOLA (Dominion Electrohome)	
062	205
3A61, 3A62	220B
6V82E, 6V92D	245
6V92P, 6V92S	245
7V41E	271
7V51M, 7V51P, 7V52E	246
7V62P, 7V85S, 8V41E	246
8V51M, 8V51P	246
9AO41P	248
40V52V, 40V52E-1, 40V52P	245A
PIERCE-AIRO—(Also see Dewald)	
517 Auto	294
617 Auto	294
PIERCE-ARROW (Motor Car)	
E (MED), E-122 (MED-122), T-3 (MT-3), T-14 (MT14X4)	500P
M1412, M1435	505P
PILOT	
G56, G57 (G50 Series)	245A
H64	850
91	294
253, 255 (Type 1)	285XS
253, 255 (Type 2)	245
253, 255 (Type 3)	245A
517, 527, 617, 702	294
X2253, X2255	F245
G5206, CG5206, TG5206, G5207, TG5207 (G5200 Series)	F245
H6204 (H6200 Series)	850
PLYMOUTH (Motor Car)—(Also see Philco)	
G (CGD), G-122 (CGD-122), R (CRD), T-2 (CT-2), T-11 (CT-11)	500P
C1450, C1452	505P
C1550	505P
C1606	508P
C1608	505P
C1708	509P
C1808	509P
PONTIAC	
544245, 544246, 544267, 544268, 544289, 544290, 544291, 544297, 544298	273C
980393	221
980441, 980455, 980459	222
983506, 983507	273C
983526, 983527, 983534, 983569, 983570, 983616, 983617	852
983667	249
983679	868
983680	870
983705	249
983775	870
983776	868 870
983777	742
983910	870
983911	868
983912	859
723253	852
RADIETTE	
54, 64	294
RCA	
5M	249
6BK6, 6BT6	W245A
6M, 6M2	249
BC6-6, BT6-5	245A
H-8 (Hudson)	294
AVR7, AVR-7A, AVR-7B	G286S
AVR8A, AVR8B	G249
8BK6, 8BT6	W245A
8BK8, 8BT8	W245A
8M, 8M1, 8M2	850
8M3, 8M4	249
8QB, 8QBK	728A
CV-8 (Pak-O-Power)	W245A
9M1, 9M2	850
RC-9 (Mobile Trans.)	725
AVR10, AVR10A (6-Volt)	743
AVR15 (6-Volt)	743
AVT15 (12-Volt)	G745
AVT15A (6-Volt)	745
M34	271*
M50 (RC3571)	850
M60 (RC357K), 67M	850
67M1, 67M2, 67M3	249
M70 (RC394)	850
RS79	W245A
RS79A	728A
RS79B, 84BT6	722A
85BT6	728A
94BT6, 94BT61	722A
96BK6, 96BT6	722A
M101 (6-Volt)	286S
M101 (12-Volt)	G286S
M104 (6-Volt)	286S
M104 (12-Volt)	G286S
M105	271*
M107 (6-Volt)	253
M107 (12-Volt)	G253
M108 (6-Volt)	286S
M108 (12-Volt)	G286S
M109	294
M116	271*
M123	294
RC336	728A
AC3689 (Nash)	249
AC3789 (Nash)	850
MI-7814	725
MI-7815, EG45A, 81310-3	743
AR4229	271*
REO MOTOR CAR—See Philco	
RADOLEK	
10968	F221
K16743, K16746	245C
K16749	245
K16780	245A
K16825	294
N16704	245C
REMLER	
27 Scotty, 35 Auto	292
SEARS-ROEBUCK (Silvertone)	
107HA62	249
566, 666	294
1855, 1856 (4-Prong)	F294
1855, 1856 (6-Prong)	F297
1859, 1859A	271
1860	F251
1869	294
1869X	294
1871	294
1924, 1934	246A
1949, 1949A	294
2061	246
2421	246
4400, 4400A	249
4405	294
4405A	246
4407	294
4418	246
4419	246
4421	246
4428	294
4428A	246
4430	246
4433	246
4434	246
4441	246
4448	294
4448A	246
4450	294
4451, 4453, 4459, 4519	246
4521	246
4528	294
4528A	246
4548	294
4548A	246
4550	294
4559	246
4600, 4601	852
4613	246A
4614	294
4622, 4623	246A
4640	246
SEARS-ROEBUCK (Silvertone)—*Continued*	
4643	246A
4650	246
4651	294
4700	294
4722, 4723	246A
4740	246
4743	246A
4750	246
6000, 6001	852
6005	246
6070	246A
6071, 6072	246
6073, 6074	294
6076, 6077	246
6079	294
6100, 6101	852
6104	850
6170	246A
6171, 6172	246
6173	294
6176	246
6190 (126.209)	850
6210	246A
6214	246
6218	294
6270	246
6271, 6272	294
6301 (126, 211)	850
6302 (101.598)	868
6303 (126.223)	742
6306-3G	870
6368 (101.582)	294
6382 (101.594)	294
7063	220B
7068	292
7088	220B
7091, 7093, 7094	870
7117	271
7128	294
7149	220B
7149 (2nd)	296
7156	294
7157	294
7163	294
7167	294
7233	245C
SENTINEL (Erla-Sentinel)	
10M, 10MF	294
11M	294
31B, 34B, 49B, 50B	245A
63B, 66B, 66BE, 68, 68B, 68BE	245A
73B, 78B, 78BE, 88BE, 98BE	245A
100X	294
119B, 130B, 130BE, 140B, 140BE	245A
144X, 144XE	294
186B, 186BE	245A
191B, 191BE	245A
197X	294
236	245A
237	294
256	245A
257	294
600, 602	292
603	292
5500	294
5600	F251
6100, 6101, 6102	F221
SETCHELL-CARLSON (Setco)	
40, 41, 50, 51, 52, 410, 510	245
44, 60, 61, 62, 77, 83, 610, 620, 622, 630, Sheriff	744
SILVERTONE—See Sears-Roebuck	
SIMPLEX	
DB, DF (500,001 and up)	245C
GB, GBE	245C
P, P (32-Volt)	F221
PB, PF (352,001 and up)	245C
Q (378,001 and up)	294
T (Early)	292
T (Late)	245C
TA	248
SONORA	
AU10	264
KU9	264
LU170	850
M, Q, QA	246
SM	850
TM	246
SPARTON (U. S. and Canada)	
33, 33A, 33B, 33C, ER33	292
36	222
333, 535	292
637-6, 638-6	245
649-6L	850
649-6S	850
670-6L	850

P.R. MALLORY & CO. Inc.
MALLORY

Vibrators

MALLORY REPLACEMENT VIBRATOR CHART

for Auto Radio and Battery-Operated Household Receivers

Models	Replacement
SPARTON (U. S. and Canada)—*Continued*	
670-6S	850
676, 677, 678	294
686, D686, H686	294
687-6, 688-6	245
699	294
SPIEGEL	
A2200	245A
A2204	245A
A2250	245A
A2454, A2456, A2462	850
L7	245C
U6	294
V1148	850
W216	246
W408	264
Z4, Z5	245C
Z7208	245A
Z7460, Z7462	850
6J	248
6P	245C
14-129	245
25Y1 (5Y)	286S
102, 104, 112, 124 (Z4)	245C
144	245C
145E	245
152, 167, 178, 182, 183	245C
186	294
297	248
651	246
1108, 1109, 1110, 1111 (211)	294
1142, V1142, 1143	294
1901, 1907, 1911, 1921 (X6)	245C
1932, 1955, 1957 (X6), 1961, 1981 (X6)	245C
2006	850
2007	850
2212, 2213, 2214, 2215	245
2222	245
2223	245
2224	245
2225	245
2222—2229 (73B)	245A
2254—2257	245
2280, 2281	245
2300, 2301, T2300	294
2302, 2303 (78)	850
4040	950
4210 (66), 4212 (88)	850
4215	294
4400	245C
4402	246
4404	245C
4410	246
4420, 4452	245C
4519 (603)	292
4534	294
5200, 5210, 5214, 5216	246
5218	245
5256, 5260 (700)	246A
5300	294
6700	245A
6708 (M5)	245C
6712	245
6714	246
6716	245
6750, 6752 (Z4)	245C
6754 (M5)	245C
6758	246
6760 (700)	246A
6766	245
6770 (700)	246A
6772	245
6800	294
6805, 6806, 6807, 6808, 6815, 6816, 6817, 6818, 6836 (14-112S)	294
9930	286S
STEWART-WARNER (U. S.)	
R112	292
R117, R118	294
R131	294
R132	289Y
R133	294
R143, R160	294SW
R178	294SW
R189	285XS
R191D, R192D	245
R318, R319	854
1121, 1122, 1123	292
1171, 1172, 1181, 1182, 1183	294
1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319	294
1322	289Y
1332	294
1431	294SW
STEWART-WARNER (U. S.)—*Continued*	
1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609	294SW
1781	294SW
1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919	245
1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929	245
R3271, R3271C, R3291, R3291C, 3341, 3371	854
4061	294
STEWART-WARNER (Canadian)	
CR112	292
R117	294
R184, R187, R189	285XS
R195 (1955)	245
R198, R199	245
R402	245SW
R415	246A
R4061	294SW
STROMBERG-CARLSON (U. S. and Canada)	
33, 33A, 33X	210
115	245A
STUDEBAKER—(Also see Philco)	
C (SCD), C-122 (SCD-122), D (SDD), J (SJD), Q (SQD), T-3 (ST-3), T-7 (ST-7X), T-12 (ST-12), T-15 (ST-15)	500P
S1416, S1431, S1437, S1516, S1526	505P
S1616, S1622	608P
S1722	509P
S1825	509P
S1826	509P
TERRAPLANE—See Hudson-Terraplane	
TRANSITONE—See Philco	
TRAVLER	
5-Tube Batt. Rec.	246
6-Tube Auto	850
6-Tube Batt. or AC	850
7-Tube Auto	850
8-Tube Batt. or AC	850
6, 64	294
76, 173	246
179, 180	294
525	246
542	294
560	850
570B	850
576, 576B	850
600	246
616, 620	850
621	850
642	294
650	246
679, 680	294
733	246
TRUETONE (Western Auto)	
D706	246
D708	245C
D709	850
D716 (1938-39)	850
D717 (6V-110V)	850
D718	245C
D719	245
D734	294
D737	294
D737C	294
D739	299
D740	296
D743W (1935)	253
D743, D744 (Series "A")	294
D745	248
D746, D746A, D746B, D746C	294‡
D747	294
D748	248
D976	294
D978	248
D1022	246A
D1192	748
DE3000 Issue A	294‡
S690, S691	205
S732, S733	292†
S735	286S
S740	296
S741A, S741B, S741C	299
TRUETONE (Western Auto)—*Continued*	
S743	294
V6Z2, Z6Z1	292†
L7, X6, Z4, Z5	245C
5H Series	246
5Y (25Y1)	286S
6C1	294
6C13	248
6D	850
6K	248
6P	245C
6S, 6U	253
062, 062A	205
06W	210
06Z	292†
R131 (1312)	294
180, 184	245
577	294‡
670	299
677	294
ULTRAMAR	
327	246
337	246
345, 355	246
856, 877	850
UNITED AMERICAN BOSCH—See Bosch	
UNITED MOTORS SERVICE—See Buick, Chevrolet, Delco, Oldsmobile, and Pontiac	
UNITED SCIENTIFIC LABS.—See Dewald	
UNIVERSAL BATTERY	
50A6	246
60	294
61A6 (1936)	245C
61A6 (1937)	246
70	294
72A6	245C
80, 802, 803	294
7232 (32V.)	F251
7332 (32 V.), 8232 (32 V.), 8332 (32 V.)	F294
8432	294
VICTOR (Canadian)	
5M, 6M, 6M-2	249
V6-1	W245A
8M, 8M1	850
8M3	249
CV8 (Pak-O-Power)	W245A
M34	271*
67M	850
67M2	249
95BK6, 95BT6, 97BK6	722A
M108	286S
M108 (12-Volt)	G286S
M116	271*
M123	224
WARWICK	
6-Tube Auto	504
9-41	246A
9-44	246A
9-59	850
9-627	850
406	246A
453	246
511, 550C	504
553, 562, 600	246
646	294
651	246
652B	246A
654, 700	246
746	294
747	850
751, 761	246
846	294
WELLS-GARDNER	
B2A, S2 Series	246
C5	248
C7	248
S1 (Series)	246
5C6	952W
5C10	953W
5H Series	246
5Y	286S
5Y (12-Volt)	G286S
6B	F251
6C1	294
6C7, 6C9	248
6CH5	248
6J	248
6K	248
6L, 6N, 6R	294
6S, 6U	253
WELLS-GARDNER—*Continued*	
6-Tube (32-Volt)	F251
7C15-771	850
C6, C6A, C6B	952W
062, 062A	205
06W, 06X	210
06Z	292†
V6Z2, Z6Z1	292†
072	205
072A	210
C11, C13, C14	248
15C6	952W
25Y1	286S
25Y1 (12-Volt)	G286S
26B1, 26B5	F251
26R1	294
26S1, 26U1	253
36C7, 36C11	248
46L1	294
65H	246
WESTERN AIR PATROL	
708 (W832)	246
WESTINGHOUSE (U.S.)	
WR25	294
WR25 (6-Prong)	296
WR26	294
WR26 (6-Prong)	296
WR500, WR501, WR502	253Y
WR503	294
WR603, WR606	245
WR610	245
WESTINGHOUSE (Canada)	
A43, A44	271*
B718A, B718X	W245A
B819A, B819X	W245A
H40192	W245A
WILCOX-GAY	
A5, A6 (5F8)	
3R6, 4B6 (Roadmate)	
WILLYS	
W1419	505P
6MW693	1100
ZENITH	
4B106, 4B131, 4B132	246
4B231, 4B313, 4B314, 4B317, 4B355	246
4F133	W246
4V31, 4V59	246
5F134, 5F166	W246
5J217, 5J217T, 5J247, 5J255	850
5M90	294SW
5M191	294
5M291, 5M294	853
6B107, 6B129, 6B164, 6B321	246
6J230, 6J257, 6J322, 6J357	850
6J436, 6J463	850
6M90D, 6M90S, 6M91D, 6M91S, 6M92	294
6M192, 6M193, 6M194, 6M195	294
6M292, 6M293, 6M295	853
6M390 (Ford)	853
6MF490 (Ford)	850
6MF590, 6MF591	850
6MF690	1100
6MN495	850
6MN496	246
6MN595	850
6MN695	1100
6MW693	1100
6V27, 6V62	246
6VA27, 6VA62	246
7	296
7J232, 7J232T, 7J259, 7J259T, 7J323, 7J368	850
7M91D, 7M91S	294
7ML592	850
7MN596	850
8M195	294
8ML692	850
460, 462	292
650HD, 651HE, 660TD, 661TE	292
663, 664, 666, 668, 680	294SW
ZEPHYR RADIO	
DB, DF	245C
GB, GBE	245C
TA	248
2M7	292
3M7, 3M8	294
20B6, 21B6, 22B6	245C
25B5	246
30B7, 30P7, 32B7, 33B6	245C

*Requires Special Cup Adapter. Supplied at $1.20 list.
†CAUTION! If the vibrator being replaced in one of these radio sets is a DeVry Carbon Point Vibrator, it will be necessary to replace the power transformer with one of a later type. This transformer is available from the Radio Set Manufacturer.
‡Buffer capacity value must be changed to .015 mfd.
§Transfer pins from original vibrator.
The prefix letter "F" designates Vibrator designed for 32-volt Service.
The prefix letter "G" designates Vibrator designed for 12-volt Service.

utah REPLACEMENT VIBRATORS

COMPARISON CHART

Radiart	Utah
2742	NL3
2743	NL3
2747	NL3
2819	NL3
2819-32	32NL3
2864	NL3
2867	NL3
3200	NL3
3223	NP6
3225	32NL3
3227	NL3
3260	NP4
3261	NP6
3262	NP40
3263	NP6
3264	NP482
3283	SP50
3290	SL4H
3299	NP6
3300	NL3
3302	NP6
3308	SL5
3313	NL3
3315	SL5
3317	SL5
3318	SP5H
3319	SL51
3320	NP41
3356	NP61
3375	NL3
3395	32NP48
3397	32NP61
3398	NL3
3399	NP482
3417	NP482
3417-12	12NP482
3442	NL3M
3445	SP5H
3460	32NL3M
3461	PS15

Radiart	Utah
3463	32SP2H
3481	32NP61
3503	32NP6
3588	32NL3
3607	32SL5
3608	32NL3
3651	32SP56
3679	SP55
3741	NP40
3782	NP42
3786	NP51
3806	NP42
3815	NP481
3842	NP481
3848	SL5
3850	SP63
3865	NP44
3880	NL3
3883	SP69
3888	NP40
3883-12	12SP69
3989	SP6
4253	NP42
4253-12	12NP42
4253-32	32NP42
4254	SL52
4254-12	12SL52
4254-32	32SL52
4255	SP71
4255-12	12SP71
4255-32	32SP71
4257	SP72
4257-12	12SP72
4257-32	32SP72
4260	NP4
4301	NP482
4313	NP482
4314	32NP61
4318	NP62
4320	NP63

Radiart	Utah
4402	SP5
4403	SP56
4404	32SP6
4414	SP72
4415	SP61
4415-12	12SP61
4416	SP66
4417	4SP56
4500	SL5
4501	SP63
4502	SP50
4504	SP52
4505	SP50
4607	SL4H
4608	SP68
4610	SP5H
4611	SP52
4612	SP66
4613	SP51
4614	SP51
5300	NP42
5301	NP485
5303	NP480
5304	NP50
5305	NP42g
5306	NP6
5310	NP42
5312	NP6
5313	NP48
5320	NP49
5321	NP44
5322	NP41
5323	NP483
5325P	NP484
5326P	NP485
5327P	NP48
5330	NP4
5331	NP43
5333	NP45
5334	NP45

Radiart	Utah
5335	NP487
5339	NP480
5340M	NP484
5341M	NP484
5342M	NP485
5365	NP65
5400	SP62
5404	SP633
5405	SP55
5406	SP71
5406-12	12SP71
5407	SP641
5409	SP5
5409-32	32SP5
5409-4	4SP5
5410	SP55
5411	gSP66
5413	SP56
5415	4SP56
5420P	SP66
5421	SP66
5422	SP7
5426	SP54
5427	4SP66
5428	SP60
5430	SP64
5431	4SP65
5434	SP64
5435	SP66
5437	SP645
5438	SP640
5439	SP66
5439-12	12SP66
210	SP5H
211	SP5H
212	SP5H
213	SP5H
214	SP5H
F211	32SP5H
219	SP5H

Mallory	Utah
220B	NL3M
F220C	32NL3M
221	NL3
F221	32NL3
222	SL5
223	SL5
F223	32SL5
224	SP61
225	SL5
226	SL5
230	SP5H
231	SL4H
234	SL4H
235	SL4H
245	SP5
245A	SP56
F245	32SP5
G245	12SP5
W245	4SP5
W245A	4SP56
245C	SP55
246	SP66
246A	SP646
W246	4SP66
247	SP6
F247	32SP6
248	SP62
249	gSP71
F251	32NP489
253T	NP481
253Y	NP44
253	NP489
F253	32NP489
G253	12NP489
270B	SP50
271	SP50
271HD	SP50
273C	SP51
273D	SP52
275XS	SP68
277S	SP63
P285Y	SP60
W285	4SP56
285XS	SP67
286S	SP69
G286S	12SP69
289Y	SP72

Mallory	Utah
292	NL3
F292	32NL3
294	NP42
294C	NP480
F294	32NP42
294SW	NP43
296	NP6
297	NP61
F297	32NP61
299	NP63
500P	NP41
501P	NP44
503	NL3
504	NP62
505P	NP49
507P	NP483
508P	NP484
509P	NP476
510P	NP48
514	SP54
715	SP54
716	SP54
722A	SP64
725	SP71
G725	12SP71
728A	SP64
743	SP644
825	NP48
F826	32NP48
839	NP48
850	NP48
G850	12NP48
852	NP480
853	NP44
854	NP43
860	NP45
863	NP487
868	NP45
869	NP42
901M	NP484
902M	NP48
903M	NP485
591P	SP66
592W	SP645
953W	SP640
954	SP633

Delco	Utah
1206048	NL3
1207758	NL3
1208000	SL5
1208115	32SL5
1208152)	SL5
1208239	SL5
1208920	32SP6
1209282	SP51
1211375	SP56
5035120	SL5
5037400	SP51
5038055	SP51
5039661	SP51
5039757	SP51
5040000	NP44
5040700	SP51
5041125	SP56
5041245	SP51
5041376	SP52
5042240	NP41
5042703	NP49
5043853	SP52
5050498	SP54
5050651	SP56
5050673	NP480
5052370	gSL51
5052374	N6
5052378	NP42
5052525	SP66
5052538	NP481
5052869	SP69
5053141	SP53
5053179	SP6
5053181	SP55
5053183	SP71
5053185	SP5
5053501	SP62
5053696	NL3

PRICE LIST — HOOK-UP — DIMENSIONS OF UTAH VIBRATORS

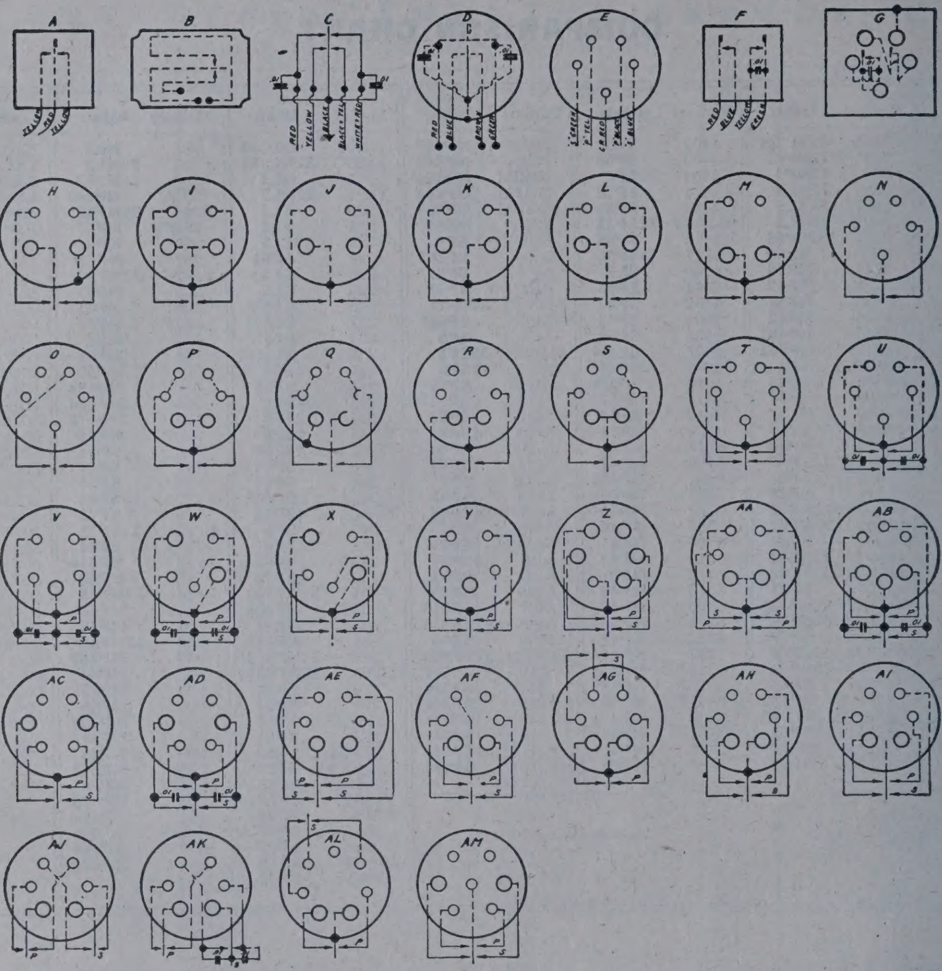
Stock Number	Size	Base Code Letter	List Price	Stock Number	Size	Base Code Letter	List Price	Stock Number	Size	Base Code Letter	List Price
NL3	1 9/32x1 7/16x2 13/32	A	$4.15	NP51	2 x3 9/16	O	$4.15	SP60	1⅝x3⅝	AA	$5.95
NL3M	1 5/16x1 31/32x3½	B	4.75	NP6	1½x3⅛	P	3.55	SP61	2¼x4⅝	AB	8.50
NP4	1½x3⅛	I	3.55	NP61	1½x3⅛	Q	4.75	SP62	1½x3⅛	AC	5.95
NP40	1⅝x3⅝	I	4.15	NP62	1½x3⅛	R	4.75	SP63	2 x4½	AD	7.15
NP41	2¼x4¾	J	3.00	NP63	1½x3⅛	S	4.75	SP64	2 x3 9/16	AE	5.95
NP42	1½x3⅛	J	3.55	NP64	2 x3 9/16	R	4.75	SP65	1½x3⅛	AG	6.60
NP43	1½x3⅛	K	3.55	SL5	1 9/32x1 7/16x2 13/32	C	6.60	SP66	1¼x3⅛	AH	5.95
NP44	1⅝x3⅝	J	3.55	SL51	2 x4 5/16	D	7.15	SP67	2 x4½	AJ	8.50
NP45	1½x3⅛	M	3.55	SLH (see SL4H)				SP68	2 x4½	AK	9.00
NP46	1½x3⅛	L	3.55					SP69	2 x4½	AC	6.60
NP47	1½x3⅛	J	3.55	SL4H	1 9/32x1 7/16x2 13/32	F	7.15	SP633	1½x3⅛	AF	5.95
NP476	1½x2⅞	L	3.55	SL52	1½x3⅛	E	5.95	SP640	1½x3⅛	AC	5.95
NP48	1½x3⅛	L	3.55	SP5H	2¼x2 7/16x5¼	G	9.00	SP641	1¼x2⅞	AC	5.95
NP49	2 x3 9/16	J	3.55	SP5	1½x3⅛	T	5.95	SP644	1¼x3⅛	AH	5.95
NP480	1⅝x3⅝	M	3.55	SP50	2 x4½	U	7.15	SP645	1¼x2⅞	AC	5.95
NP481	2 x4½	I	4.75	SP51	2 x4½	V	6.60	SP646	1 59/64x3 9/16	AH	5.95
NP482	2 x4½	I	4.75	SP52	2 x4½	W	6.60	SP7	1½x3⅛	AL	6.60
NP483	1⅝x4¾	J	3.00	SP53	2 x3 9/16	U	7.15	SP71	1½x3⅛	AM	5.95
NP484	1½x3⅛	J	3.00	SP54	1 15/16x3½	X	5.95	SP72	1⅝x3⅝	AM	5.95
NP485	1½x2 13/16	J	3.00	SP55	1½x3⅛	Y	5.95	4SP5	1½x3⅛	T	5.95
NP487	1½x2⅞	M	3.55	SP56	2 x3 9/16	T	5.95	4SP56	2 x3 9/16	T	5.95
NP489	2 x4½	H	4.75	SP57	1½x3⅛	T	5.95	4SP65	1½x3⅛	AG	6.60
NP50	1½x3⅛	N	4.15	SP6	1½x3⅛	Z	5.95	4SP66	1½x3⅛	AH	5.95

Some of the above items may not be available for the duration. Consult your local UTAH jobber.

utah

REPLACEMENT VIBRATORS

BASE DIAGRAMS


A
B
C
D
E
F
G
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I
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K
L
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Q
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V
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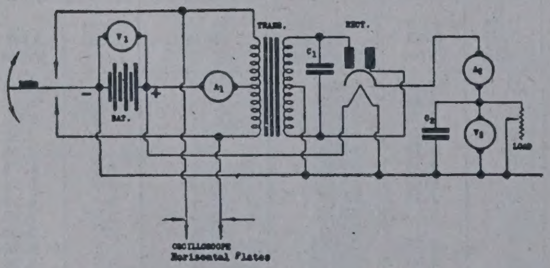
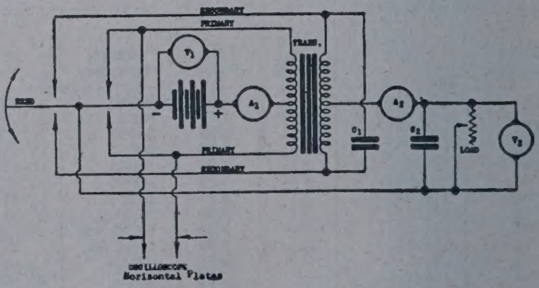
AL
AM

VIBRATOR TESTER CIRCUIT


V1
BAT.
A1
TRANS.
RECT.
C1
A2
C2
V2
LOAD
REED
OSCILLOSCOPE
Horizontal Plates


SECONDARY
PRIMARY
TRANS.
REED
V1
A1
A2
C1
C2
LOAD
V2
PRIMARY
SECONDARY
OSCILLOSCOPE
Horizontal Plates

NON-SYNCHRONOUS

Trans.—Utah No. 2460 Vibrator Transformer
Rect.—6X5G Rectifier Tube
Load—5000 Ohm 25 Watt Rheostat
C_1 —.008 M. F. 1600 V. Buffer Condenser
C_2 —8 M. F. 450 V. Electrolytic Condenser
A_1 —0-10 Ammeter, D.C.
A_2 —0-100 Milliammeter, D.C.
V_1 —0-10 Voltmeter, D.C.
V_2 —0-500 Voltmeter, D.C.

SYNCHRONOUS

Trans.—Utah No. 2460 Vibrator Transformer
Load—5000 Ohm 25 Watt Rheostat
C_1 —.01 M. F. 1600 V. Buffer Condenser
C_2 —8 M. F. 450 V. Electrolytic Condenser
A_1 —0-10 Ammeter, D.C.
A_2 —0-100 Milliammeter, D.C.
V_1 —0-10 Voltmeter, D.C.
V_2 —0-500 Voltmeter, D.C.

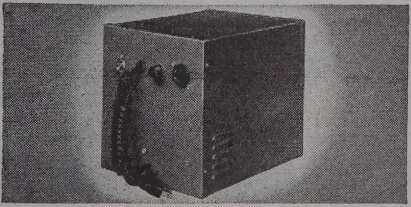
Some of the above items may not be available for the duration. Consult your local UTAH jobber.

ELECTRONIC LABORATORIES
VIBRATOR INVERTERS
DC TO AC POWER CONVERSION

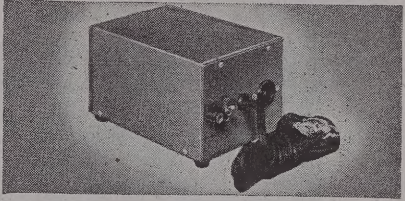
For EFFICIENCY ECONOMY SERVICE

Changing the characteristics of electric power is the job of E-L Vibrator Power Supplies. Available for applications up to 1500 watts, they have established an outstanding record of efficiency and economy in accomplishing these basic power conversions: Inverters for changing direct current to alternating current; Rectifier Packs for changing alternating current to direct current; Converters for increasing or decreasing DC voltages as desired, and Frequency Changers for changing frequency of alternating current.

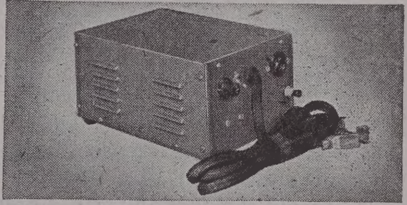
E-L Vibrator Inverters have been designed to make possible the operation of standard 115-volt AC equipment and appliances from various DC voltages. Offered in an extensive line of standard models, there is an E-L Inverter for every popular application, such as the operation of radio receivers and transmitters, public address systems, intercommunication systems, coin-operated equipment, motors, electrical appliances, refrigerators, etc.



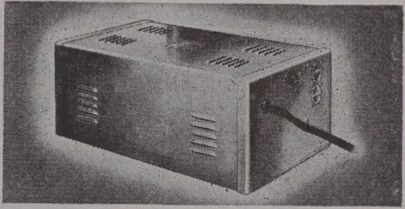
434 *A standard E-L vibrator inverter operating on 230 volts DC for radio receivers and transmitters and general purpose use. Input: 230 volts DC; Output: 115 volts AC; Output power: 350 watts; Dimensions: 10¾" x 7½" x 8¼"; Weight: 24 pounds.*



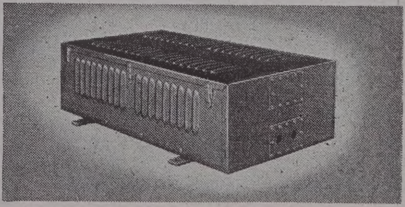
303 *A standard E-L vibrator inverter operating on 6 volts DC for powering electric motors and appliances. Input: 6 volts DC; Output: 115 volts AC; Output power: 25 watts; Dimensions: 7⅛" x 4¼" x 5¼"; Wt.: 6 lbs.*



502 *A typical E-L standard vibrator inverter operating on 12 volts DC for powering radio receivers and electric appliances. Input: 12 volts DC; Output: 115 volts AC; Output power: 100 watts; Dimensions: 9⅜" x 6⅜" x 4⅝"; Weight: 14½ pounds.*



146 *A standard E-L vibrator inverter operating on 32 volts DC for powering radio receivers and transmitters, coin phonographs and other equipment which demands 350 watts power. Input: 32 volts DC; Output: 115 volts AC; Output power: 350 watts; Dimensions: 16" x 10" x 8⅜"; Weight: 48 pounds.*



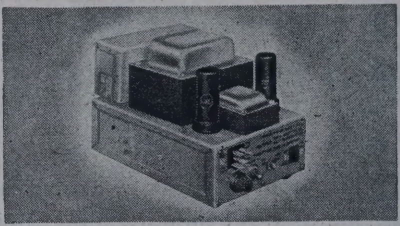
269 *A heavy-duty standard E-L vibrator inverter with output power of 1000 watts operating on 115 volts DC for powering radio transmitters, electric motors and appliances. Input: 115 volts DC; Output: 115 volts AC; Output power: 1000 watts; Dimensions: 25¼" x 17½" x 8⅜"; Weight: 120 pounds.*

Electronic LABORATORIES INC.
INDIANAPOLIS
VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS AND ELECTRIC MOTOR OPERATION • ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT

E-L

VIBRATOR CONVERTERS RECTIFIER PACKS FREQUENCY CHANGERS

601 *A typical standard vibrator converter for power pack use. Input: 6 volts DC; Output: 300 volts DC; Output power: 30 watts; Dimensions: 4¾" x 4" x 6"; Weight: 6 pounds.*



619 *A typical E-L standard vibrator converter for transmitter application. Input: 6 volt DC and 115 volt AC; Output: 300 volts DC; Output power: 60 watts; Dimensions: 9¾" x 5¾" x 6": Weight: 14½ pounds.*

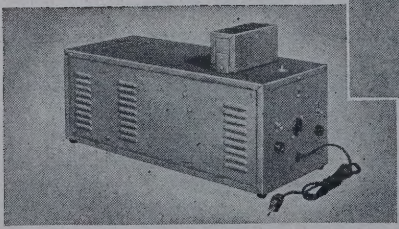
E-L Vibrator Converters have been designed to make possible the operation of equipment requiring high DC voltages from 6, 12 or 24 volt storage batteries. Offered in an extensive line of models, there is a Standard E-L Converter for every popular application, including the provision of plate and grid supply of radio receivers and transmitters in stationary, portable, or mobile applications, public address systems, communications equipment, electrical and electronic test equipment, and the like.

RECTIFIER PACKS

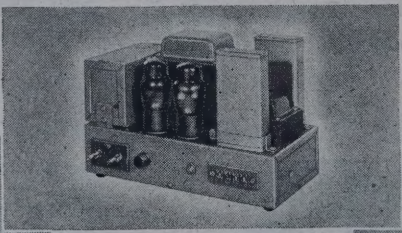
The rectifier pack is a power supply with an AC input and DC output, and is useful in electrical and electronic laboratories as well as in radio service shops.

FREQUENCY CHANGERS

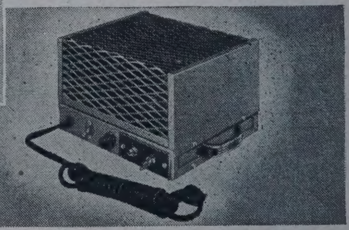
A frequency changer is a vibrator power supply with an AC input of one frequency, and an AC output of a different frequency. This makes possible the use of standard 110 volt 60 cycle AC equipment, such as amplifiers, public address systems, etc. from 110 volt AC of different frequency.



801 *A typical standard E-L frequency changer. Input: 115 volts AC, 25 cycle; Output: 115 volts AC, 60 cycle; Output power: 100 watts; Dimensions: 19⅝" x 8¼" x 10"; Weight: 29 pounds.*



618 *A standard E-L vibrator converter with tapped output for transmitter application. Input: 12 volts DC; Output: 600 volts DC; Output power: 200 watts; Dimensions: 11¼" x 6¼" x 7 9/16"; Weight: 25½ lbs.*



902 *An E-L Rectifier Pack. This model may be used as a battery charger. Input: 115 volts AC; Output 6 volts DC; Output power: 60 watts; Dimensions: 9" x 8⅞" x 5½"; Weight: 19 pounds.*

E-L Electronic LABORATORIES INC.
INDIANAPOLIS

VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS AND ELECTRIC MOTOR OPERATION · ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT

E-L SPECIFICATION CHARTS
INVERTERS...CONVERTERS

DC to AC STANDARD VIBRATOR INVERTERS

ALL MODELS LISTED ARE 60 CYCLE EXCEPT MODEL 270

MOD. NO.	INPUT VOLTS DC	OUTPUT VOLTS AC	OUTPUT WATTS	LOAD† P.F. (%)	DIMENSIONS (In.)	WT. (Lbs.)	PRINCIPAL APPLICATIONS
308	6	115	10	70-100	3 x 3 x 5	2	Electric Razors
303	6	115	25	80-100	7⅛ x 4¼ x 5¼	6	Electric Motors, Appliances
302	6	115	75	80-100	9⅜ x 6⅜ x 4⅝	15½	Radio Receivers, Appliances
320	6 & 115AC	115 & 6DC	75	80-100	14½ x 9½ x 10	23¼*	Portable Inverter and Battery Charger
307	6	115	100	80-100	10¾ x 7½ x 8¼	23¼	Radio Receivers, Appliances
508	12	115	25	80-100	7⅛ x 4¼ x 5¼	6	Radio Receivers, Appliances
502	12	115	100	80-100	9⅜ x 6⅜ x 4⅝	14½	Radio Receivers, Appliances
507	12	115	150	80-100	10¾ x 7½ x 8¼	25	Radio Receivers, Transmitters, Appliances
145	32	115	25	80-100	7⅛ x 4¼ x 5¼	5½	Radio Receivers, Motors
102	32	115	100	80-100	9⅜ x 6⅜ x 4⅝	12¾	Radio Receivers, Transmitters, Appliances
144	32	115	250	80-100	10¾ x 7½ x 8¼	27	Radio Receivers, Transmitters, Appliances
146	32	115	350	80-100	16 x 10 x 8⅜	48	Receivers, Transmitters, Coin Phonographs
267	115	115	5	80-100	9⅜ x 2⅛ x 2¼	2	Flea Motors
261	115	115	75	80-100	7⅛ x 4¼ x 5¼	6¼	Radio Receivers, Appliances
204	115	115	150	80-100	9⅜ x 6⅜ x 4⅝	12½	Receivers, Transmitters, Appliances
262	115	115	250	85-100	10¾ x 7½ x 8¼	27	Receivers, Transmitters, Appliances
260	115	115	250	30-85	10¾ x 7½ x 8¼	28	Neon Signs, Small Motors
263	115	115	400	30-85	16 x 10 x 8⅜	45	Motors
264	115	115	500	70-100	16 x 10 x 8⅜	47¼	Receivers, Transmitters, Coin Phonographs
268	115	115	750	80-100	20⅛ x 11¾ x 7½	66	Motors, Communications Equipment
269	115	115	1000	80-100	25¼ x 17½ x 8⅜	120	Motors, Communications, Appliances
270	115	230 (50 Cy.)	250	80-100	10¾ x 7½ x 8¼	27	Receivers, Transmitters, Appliances
272	115DC or AC	115	5	80-100	6¾ x 6½ x 3	3½	Timing Equipment, Flea Motors
435	230	115	75	80-100	7⅛ x 4¼ x 5¼	5¼	Radio Receivers, Appliances, Electric Razors
424	230	115	150	80-100	9⅜ x 6⅜ x 4⅝	23¼	Radio Receivers, Transmitters, Appliances
434	230	115	350	80-100	10¾ x 7½ x 8¼	24	Receivers, Transmitters, General Purpose

† Typical High Power Factor Loads: Universal (Brush Type) AC-DC Motors, Radio Receivers & Transmitters, P.A. Systems, Coin Phonographs; Typical Low Power Factor Loads: Neon Signs, Fluorescent Lights, Synchronous Motors, Repulsion-Induction Motors, Refrigerator Motors, Sun Lamps.

* Weight without Battery.

DC to DC STANDARD VIBRATOR CONVERTERS

MOD. NO.	INPUT VOLTS DC	OUTPUT VOLTS DC	OUTPUT WATTS	RECTIFI-CATION	DIMENSIONS (In.)	WT. (Lbs.)	PRINCIPAL APPLICATIONS
605	6	275	19	Synch.	5½ x 3¼ x 6	5½	Power Pack, Tapped Output
601	6	300	30	Tube	4¾ x 4 x 6	6	Power Pack, Tapped Output
604	6	300	30	Synch.	5½ x 3¼ x 6	5½	Power Pack, Tapped Output
619	6 & 115AC	300 & 6.3AC	60	Tube	9¾ x 5¾ x 6	14½	Transmitters
616	6 & 115AC	400 & 115AC	100	Tube	7½ x 7 x 6⁹⁄₁₆	16	Power Pack, Tapped Output; 115 V AC out for Phono-Motor
617	6	600	125	Tube	7½ x 7 x 6⁹⁄₁₆	16	Power Pack, Tapped Output; Transmitters
602	12	300	30	Tube	4¾ x 4 x 6	6	Power Pack, Tapped Output
622	12	300	30	Synch.	5½ x 3¼ x 6	5½	Power Pack, Tapped Output
625	12 & 115AC	300 & 6.3AC	60	Tube	9¾ x 5¾ x 6	14½	Transmitters
620	12 & 115AC	400 & 115AC	80	Tube	7½ x 7 x 6⁹⁄₁₆	16	Power Pack, Tapped Output; 115 V AC out for Phono-Motor
618	12	600	200	Tube	11¼ x 6¼ x 7⁹⁄₁₆	25½	Tapped Output; Transmitter
701	24	300	30	Synch.	5½ x 3¼ x 6	5¾	Power Pack, Tapped Output
719	24 & 115AC	300 & 6.3AC	60	Tube	9¾ x 5¾ x 6	14	Transmitters
716	24 & 115AC	400 & 115AC	80	Tube	7½ x 7 x 6⁹⁄₁₆	16	Power Pack, Tapped Output; 115 V AC out for Phono-Motor

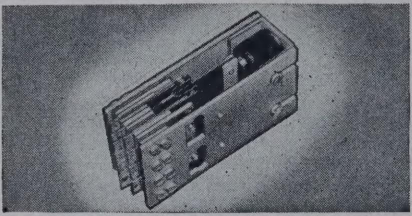
Electronic LABORATORIES INC.
INDIANAPOLIS

VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS AND ELECTRIC MOTOR OPERATION • ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT

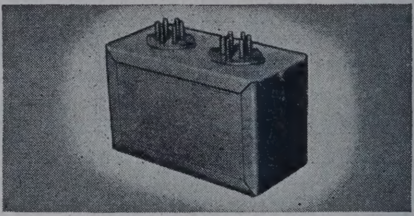
VIBRATORS
GIVE OUTSTANDING PERFORMANCE

The E-L vibrator is the heart of ELECTRONIC's power supplies. It is the most efficient and flexible means yet found to change DC to AC. The new line of Low and Medium-Power Vibrators brings you, for the first time, 180 cycle vibrators, as well as conventional 115 cycle types. The new E-L high-frequency vibrator, plus many improvements in the 115 cycle type, represent the first important advances in the mechanical structure of small vibrators made anywhere in the last ten years. High-Power Vibrators are also available in 60, 100 and 115 cycle types.

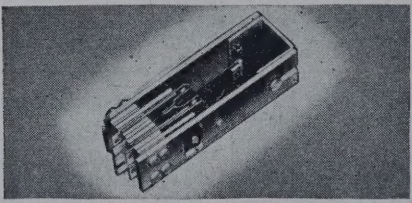
Electronic Laboratories has designed an extensive line of vibrators which meet all the standard power supply applications with complete satisfaction. These vibrators have been carefully engineered, sturdily built and mean substantial savings in size, weight, quantity and cost of components in the associated transformer and filter systems.



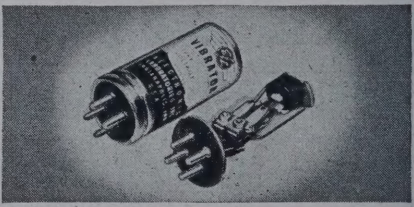
Typical E-L Tandem Type Vibrator. Maximum input wattage 1000 watts at 110 volts in an approved circuit; average life is 1500 hours. Standard frequencies 60, 100 and 120 cycles.



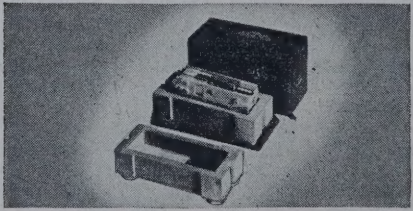
Typical Tandem Type Vibrator shown enclosed in rectangular container; have rubber shock or rubber envelope type mounts.



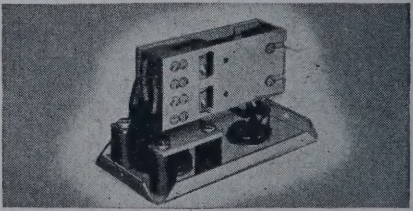
Typical E-L Converter Type Vibrator: Generally enclosed in plug-in rectangular container. Maximum input wattage is 250 watts; average life is 1000 hours. Standard frequencies are 60, 100 and 120 cycles.



115 and 180 Cycle Low-Power Vibrator. Are generally enclosed in can; have maximum input of 75 watts and average life of 750-1000 hours.



Sponge rubber envelope mounting which cushions the high-power vibrator against shock. This mounting and the rubber shock mounts are used in the plug-in rectangular container.



Rubber shock mount for high-power vibrators. Low-power vibrators are mounted in the conventional rubber sock.

Electronic LABORATORIES INC.
INDIANAPOLIS

VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS AND ELECTRIC MOTOR OPERATION · ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT

ATR

REPLACEMENT VIBRATOR GUIDE

●

For AUTO *and* FARM RADIOS

ATR
VIBRATOR
REPLACEMENT
TYPE 324
275
ATR
REPLACEMENT
VIBRATOR
FULLY GUARANTEED
AMERICAN TELEVISION & RADIO C
ST. PAUL, MINNESOTA
Made in U. S. A.
A QUALITY PRODUCT
ATR VIBRATORS
BEST BY TEST
ATR
VIBRATOR
TYPE 324
Serial 14002
For use only as recommended on approved 6 Volt D.C. Circuits. See directions.
PATENTS PENDING
AMERICAN TELEVISION & RADIO CO.
ST. PAUL, MINNESOTA
MADE IN U. S. A.

- **Longer Life**
- **Improved Performance**
- **Precision Construction**

Insist on ATR Vibrators —

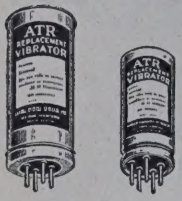
The *Best* by *Test*

➧ Write for Literature

ATR Vibrators, the heart of vibrator-operated power supplies, are proven units of the highest quality, engineered to perfection. They are backed by more than twelve years of vibrator design and research, development and manufacturing — ATR pioneered in the vibrator field.

● ATR INVERTER VIBRATORS

ATR Vibrators, the heart of vibrator-operated power supplies, are proven units of the higl quality, engineered to perfection. They are backed by more than twelve years of vibrator de and research, development and manufacturing—ATR pioneered in the vibrator field.



ATR Inverter Vibrators incorporate the following features:

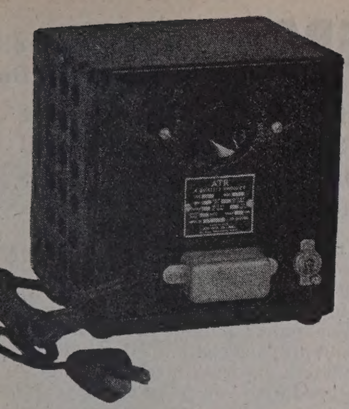
- **Large Oversized** ¼″ Diameter Tungsten Contacts having Full Wiping Action—for greater ability and longer life.
- **Highest Quality** Spring Steel Reed—for uniform flexibility and prevention of reed breakage
- **Highly Efficient** Magnetic Circuit with Formed Base—for greater accuracy and more un operation on both high and low voltages.
- **Mica and Metal Stack** Spacers with Bolted Stack Construction—for adjustment permanency any operating condition.
- **Highest Precision** Construction and Workmanship—practically all parts used are held to wit tolerance of 0.0005 of an inch.
- **When Ordering** ATR Inverter Vibrators for replacement be sure to mention the type nu model number, and serial number of the ATR Inverter for which it is intended. Consul ATR Inverter Vibrator Guide.

ATR INVERTER Replacement VIBRATOR GUIDE

ATR INVERTER		ATR Replacement Vibrator No.	Exchange List Price	Outright List Price
Model	Type			
1934, 1935 & early 1936 having serial Nos. 53401 to 63608	6 & 6S	6	$5.50	$5.95
	12 & 12S	12	5.50	5.95
	32 & 32S	32	5.50	5.95
	50 & 50S	50	5.50	5.95
	90 & 90S	90	5.50	5.95
	110 & 110S	110	5.50	5.95
	150 & 150S	150	5.50	5.95
	220 & 220S	220	5.50	5.95
Late 1936, & early 1937 having serial Nos. 73609 to 73799	All types as above except as indicated below:	All as above except as indicated below:	as above	as above
	110 & 110S	110-2	5.50	5.95
Late 1937, 1938, and early 1939 having serial Nos. 83701 to 23903	6 & 6S	6-8	5.95	6.95
	12 & 12S	12-8	5.95	6.95
	32 & 32S	32-8	5.95	6.95
	32P & 32P1	32-8P	5.95	6.95
	50 & 50S	50-8	5.95	6.95
	90 & 90S	90-8	5.95	6.95
	110 & 110S	110-8	5.95	6.95
	110P & 110P1	110-8P	6.50	7.50
	110P2	110-8P	6.50	7.50
	150 & 150S	150-8	5.95	6.95
	220 & 220S	220-8	5.95	6.95
	220P & 220P1	220-8P	6.50	7.50
Shaverpacks (SPA)	6 & 6S	663	4.50	4.95
	12 & 12S	1263	4.50	4.95
	32 & 32S	3263	4.50	4.95
	110 & 110S	11063	4.50	4.95
	220 & 220S	22063	4.50	4.95
Low Power Inverters (LIA) or (LIB)	6 & 6S	664	5.50	5.95
	12 & 12S	1264	5.50	5.95
	24 & 24S	2464	5.50	5.95
	32 & 32S	3264	5.50	5.95
	110 & 110S	11064	5.50	5.95
	220 & 220S	22064	5.50	5.95

	ATR INVERTER		ATR Replacement Vibrator No.	Exchange List Price	Out I P
	Model	Type			
Radio Inverters	RSA or RSB	6 & 6S	610	$6.50	$
	RSA or RSB	6 & 6S	610	6.50	
	RSB	24 & 24S	2410	6.50	
	RSA or RSB	32 & 32S	3210	6.50	
	RHA or RHB	32B, SB	3210	6.50	
	RSA or RSB	50 & 50S	5010	6.50	
	RSA or RSB	90 & 90S	9010	6.50	
	RSA or RSB	110&110S	11010	6.50	
	RSA or RSB	110A, SA	11010	6.50	
	RHA or RHB	110B, SB	11010	6.50	
	RSA or RSB	110C, SC	11010	6.50	
	RSA or RSB	110D	11010	6.50	
	RSA or RSB	220&220S	22010	6.50	
	RSA or RSB	220A	22010	6.50	
Industrial Inverters	ISM or ISO	6 & 6S	610	6.50	
	ISM or ISO	12 & 12S	1210	6.50	
	ISO	24 & 24S	2410	6.50	
	ISM or ISO	32 & 32S	3210	6.50	
	ISM or ISO	32P, SP	3210	6.50	
	IHM or IHO	32B, SB	3210	6.50	
	ISM or ISO	110&110S	11010	6.50	
	ISM or ISO	110P, SP	11010	6.50	
	ISM or ISO	110A, SA	11010	6.50	
	IHM or IHO	110B, SB	11010	6.50	
	ISM or ISO	220&220S	22010	6.50	
	ISM or ISO	220P, SP	22010	6.50	
	Vibrator Packs (VPM) or (VPO)	6	6101	6.50	
		12	12101	6.50	
		24	24101	6.50	
		32	32101	6.50	
		110	110101	6.50	
		220	220101	6.50	
Polarity Changers	PCA	110	110102	9.00	1
	PCA	110A	110102	9.00	1
	PCA	220	220102	9.00	1
	PCP	110	110106	6.50	
	PCP-R	110	110106	6.50	
	PCP-F	110	110106	6.50	

When ordering ATR Inverter Vibrators, be sure to mention type number, model number, and serial number o ATR Inverter for which it is intended.



Illustrating all ATR Low Power In-
rters except Types 6 and 12.

● ATR Low Power INVERTERS

Model LIB

For Operating Small A. C. Motors, Electric Razors, and Devices of Approximately 35 watts Consumption from 6, 12, 24, 32, 110, and 220 volt D. C. Lines.

This line of ATR Low Power Inverters was specially brought out to meet the insistent demand for a good, low power, inexpensive portable Inverter for operating phonograph and other A. C. motors and a host of small A. C. devices from D. C. voltage sources. These Inverters operate at an efficiency in excess of 90% and are designed for operation of loads having a power factor as low as 60%. They are ruggedly built and powered by a special ATR six-contact plug-in Inverter Vibrator utilizing four ¼" diamenter tungsten power contacts and two silver alloy driver contacts.

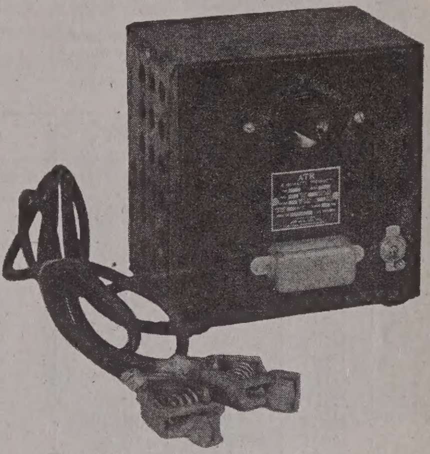
e	Input D. C. volts	A.C. Output 60 cycles	Wattage		Code Word	List Price
			Intermittent	Continuous		
	6	110 volts	50	35	ALIBM	$18.50
	12	110	50	35	BLIBN	18.50
	24	110	50	35	FLIBR	22.00
	32	110	50	35	CLIBO	22.00
	110	110	75	35	DLIBP	19.50
	220	110	75	35	ELIBQ	19.50

dio frequency interference not suppressed. Built-in filter model available, $6.95 additional.

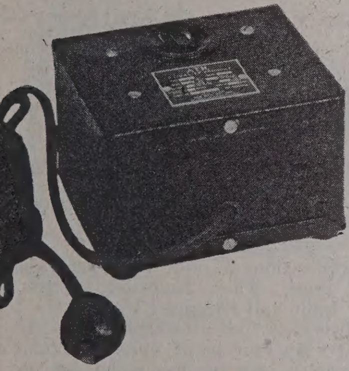
y of the above type Low Power Inverters are available with 220 volt A. C. output at prices
gher. In ordering, specify "S" after the type number and substitute for the last letter in the
ord "T"; that is, if a 110 volt D. C. Low Power Inverter having a 220 volt A. C. output is
, this would be ordered as Type 110S covered by code word, "DLIBT".

mensions, 5⅜"x4-3/16"x5⅝"; shipping weight, 7 lbs.

placement Vibrators for any of the above Low Power Inverters are available. Be sure to
the type number as well as model number when ordering. Consult Inverter Vibrator Guide.



Illustrating Types 6 and 12 Low Power Inverters only.



Illustrating all type ATR Shaver-
packs except Types 6 and 12.

● ATR SHAVERPACKS

Model SPB

Specially Designed for Operating A. C. Razors from 6, 12, 32, 110, and 220 volt D. C. Lines. May Also be Used for Other Small A. C. Devices.

ATR Shaverpacks are midget D.C.-A.C. Inverters designed especially for the operation of A. C. razors in the car (6-volt type), on buses or aeroplanes (12-volt type), on trains (32-volt type), on boats, in hotels, and D. C. districts (110- and 220-volt types). They are ideally suitable for traveling salesmen, sportsmen, and all owners of electric shavers. By the use of ATR Shaverpacks with standard A. C. razors, electric razor operation can be had anywhere! ATR Shaverpacks deliver 60 cycle A. C. current so necesary for electric razor operation and utilize a new ATR type of six contact Vibrator construction having four 3/16" diameter tungsten power contacts and two silver alloy driver contacts, which unit will give many years of satisfactory service and outlast the electric razor.

TYPE	Input D. C. volts	A.C. Output 60 cycles	Wattage Output	Code Word	List Price
6................	6	110 volts	15 watts	ASPBC	$14.95
12................	12	110	15	BSPBD	14.95
32................	32	110	15	CSPBE	18.00
10................	110	110	15	DSPBF	15.95
20................	220	110	15	ESPBG	15.95

Radio frequency interference not suppressed.

The above Shaverpack types are also available with an output voltage of 220 volts A. C. at
rices 15% higher. In ordering, specify "S" after the type number and substitute for the last
tter in the code word "T"; that is, if a 110 volt D. C. Shaverpack having a 220 volt A. C.
itput is desired, this would be ordered as Type 110S covered by code word, "DSPBT". ATR
haverpacks are housed in metal cabinets having an attractive black-wrinkled finish, which is
andard. Dimensions, 4¼"x3⅝"x2⅝; shipping weight, 3 lbs.

Replacement Vibrators for any of the above Shaverpack types are available. Be sure to men-
on the type number as well as model number when ordering. Consult Inverter Vibrator Guide.

Illustrating Types 6 and 12 ATR Shaverpacks, fitted with receptacle (for dash mounting), which attaches direct to battery.

● ATR STANDARD AND HEAVY DUTY RADIO INVERTERS

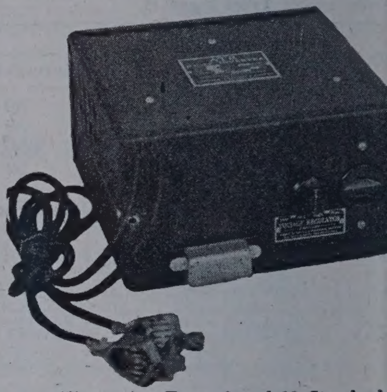
Model RSB (Standard)
Model RHB (Heavy Du

Illustrating all Standard Types ATR Radio Inverters except Types 6 and 12. For Heavy Duty Styles—see cut below.

Specially Designed for Operating A. C. Radios, Battle Announce Systems, Television Sets, Amplifiers, Intercall Systems, and Radio Test Equipment from D. C. Voltages in Vehicles, Ships, Trains, Planes, and in D. C. Districts.

This group of ATR Inverters is especially recommended for use with A. C. radi amplifiers, and similar electronic equipment, being exceptionally well filtered to ins interference-free all-wave radio reception. With ATR Inverters, the need for spe equipment is eliminated. They are designed for quiet, long-life radio operation. models indicated are equipped with an ATR ten-contact plug-in Inverter Vibrator new design and construction having dual arms and utilizing eight ¼" diameter tungs power contacts and two silver alloy driver contacts, insuring increased long life reliable service. These Inverters also come equipped with four point voltage regulat which make possible the correct output voltage for minimum to maximum loads also help compensate for input voltages which are lower or higher than normal; operating efficiency is in excess of 85%.

Type	Model	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage		Code Word	List Price
				Intermittent	Continuous		
6	RSB	6	110 volts	85	75	ARSBD	$36.00
12	RSB	12	110	125	100	BRSBE	36.00
24	RSB	24	110	125	100	NRSBQ	37.50
32	RSB	32	110	150	100	CRSBF	37.50
32B	RHB	32	110	200	180	DRHBG	54.00
50	RSB	50	110	150	100	ERSBH	45.00
90	RSB	90	110	200	150	FRSBI	45.00
110	RSB	110	110	250	150	GRSBJ	37.50
110A	RHB	110	110	325	225	HRHBK	47.50
110B	RHB	110	110	500	350	IRHBL	54.00
110C	RSB	110	110/220	250	150	JRSBM	45.00
220	RSB	220	110	250	150	LRSBO	37.50
220A	RSB	220	110/220	250	150	MRSBP	45.00



Illustrating Types 6 and 12 Standard Radio and Industrial Inverters only.

Radio frequency interference completely suppressed.

Any of the above type Inverters are available with 220 volt A. C. output at prices 15% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "GRSBT".

ATR Standard and Heavy Duty Radio Inverters are housed in attractively finished black-wrinkled metal cabinets.

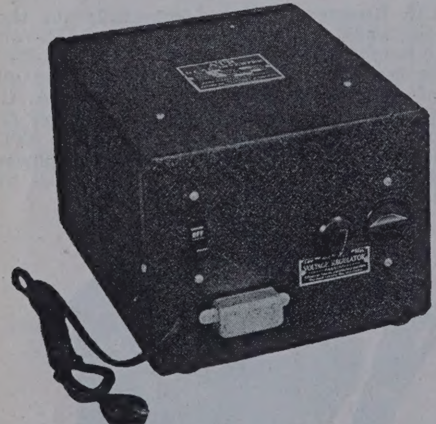
Dimensions of Standard Model Radio Inverters, 7⅞"x8-3/16"x4½ Shipping weight, 17 lbs.

Dimensions of Heavy Duty Model Radio Inverters, 7⅞"x9⅝"x6¼ Shipping weight, 26 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

● ATR STANDARD AND HEAVY DUTY INDUSTRIAL INVERTERS

Model (Standard)
Model (Heavy)



Illustrating Heavy Duty Models Radio and Industrial Inverters except types 6 and 12. Types 6 and 12 Industrial Inverters are illustrated by center cut above.

Radio frequency interference not suppressed.

Any of the above type Inverters are available with 220 volt A. C. output at slightly higher prices. In ordering, follow similar directions given above.

ATR Standard and Heavy Duty Industrial Inverters are housed in attractively finished black-wrinkled metal cabinets.

Dimensions of Standard Model Industrial Inverters, 7⅞"x8-3/16"x4½".

Shipping weight, 17 lbs.

For Operating A. C. Motors, Electronic Apparatus, Electrical Testing Equipment, and A. C. Electrical Appliances from D. C. Lines.

These units are specially designed for applications as indicated, permitting use of standard A. C. equipment on D. C. lines. These Inverters operate at efficiency in excess of 80% and are carefully built and equipped to give the lon possible life and operating satisfaction. All Inverters indicated utilize ATR ten tact plug-in vibrators, and are also equipped with four point voltage regulator fully described above. These Industrial Inverters are recommended for use loads having power factors as low as 60%, and as low as 50% for the "P" Inver indicated. These Inverters should not be used with Neon signs.

Type	Model	Input D.C. volts	A.C.Output 60 cycles	Output Wattage		Code Word	P
				Intermittent	Continuous		
6	ISO	6	110 volts	85	75	AISOD	$35
12	ISO	12	110	125	100	BISOE	35
24	ISO	24	110	125	100	LISON	36
32	ISO	32	110	150	100	CISOE	36
32P*	ISO	32	110	150	125	DISOF	45
32B	IHO	32	110	200	180	EIHOG	54
110	ISO	110	110	250	150	FISOH	36
110P*	ISO	110	110	250	150	GISOI	45
110A	IHO	110	110	325	225	HIHOJ	47
110B	IHO	110	110	500	350	IIHOK	54
220	ISO	220	110	250	150	JISOL	36
220P*	ISO	220	110	300	150	KISOM	45

Dimensions of Heavy Duty Industrial Inverters, 7⅞"x9⅝"x6¼"; shipping weight, 26 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

*"P" Inverters are corrected for loads h ing power factors as low as 50%.

Built-in filter, $9.00 additional.

ATR HEAVY DUTY VIBRATOR PACKS

Model VPO

ustrating ATR Vibrator Pack com-
without audio filter, Style A.

For Inverting Low Voltage D. C. to High Voltage D. C. for Operation of Portable Receivers and Transmitters, Aircraft Apparatus, Battle Announce Systems, Amplifiers, and Scientific Apparatus.

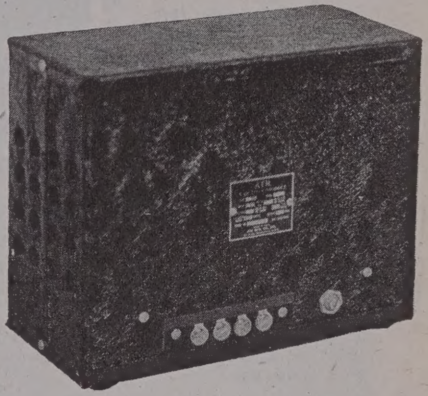
Here is a complete line of Heavy Duty Vibrator Packs for operation on 6, 12, 24, 32, 110, and 220 volts D. C. inverting same to an output of 325 volts D. C. at 125 milliamperes, adjustable in four steps as low as 250 volts D. C. at 50 milliamperes. ATR Vibrator Packs are available in two models: complete with audio filter and without audio filter. All models have built-in RF filters and come complete with rectifying tube and Vibrator. The Vibrator used is an ATR ten contact Inverter type having eight ¼" diameter tungsten power contacts and two silver alloy driver contacts for longest life and utmost reliability. The efficiency is in excess of 55%.

pe	Input Volts D.C.	Output		Without Audio Filter		With Audio Filter	
		Volts D.C.	Current ma.	Code Word	List Price	Code Word	List Price
	6	325-250	125-50	AVPOD	$26.50	FVPOI	$35.00
	12	325-250	125-50	BVPOE	26.50	GVPOJ	35.00
	24	325-250	125-50	FVPOJ	36.50	KVPON	45.00
	32	325-250	125-50	CVPOF	36.50	HVPOK	45.00
	110	325-250	125-50	DVPOG	36.50	IVPOL	45.00
	220	325-250	125-50	EVPOH	36.50	JVPOM	45.00

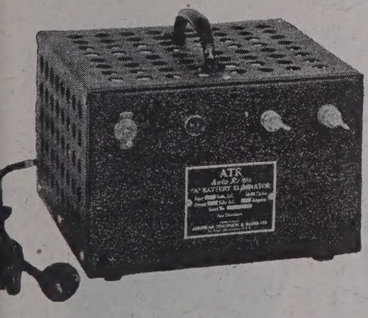
A—Attractively cadmium-plated finished as shown, dimensions 5⅝"x3⅞"x6½"; shipping
veight, 7 lbs.

B—Housed in an attractive black-wrinkled metal cabinet; dimensions 7⅞"x4"x6⅜"; shipping
veight, 11½ lbs.

ATR Vibrator Pack Replacement Vibrators are available. Be sure to mention the type number
ell as model number when ordering. Consult Inverter Vibrator Guide.



Illustrating ATR Vibrator Pack complete with audio filter, Style B.



Illustrating Standard Model "A" Bat-
ery Eliminator.

● ATR "A" BATTERY ELIMINATORS

Specially Designed for Testing D. C. Electrical Apparatus on Regular A. C. Lines, 105-125 Volts 50-60 Cycles.

- Eliminates Storage Batteries and Battery Chargers.
- Operates the Equipment at Maximum Efficiency at All Times.
- Delivers Pure Direct Current at the Correct Voltage for Proper Operation.
- Fully Automatic and Fool-Proof.

gested Uses:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments.
he laboratory, for supplying various low D. C. voltages by simply using a rheostat in one side of the A. C. cord.

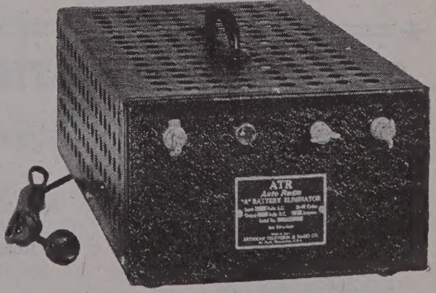
**Equipped with Full-Wave Dry Disc Type Rectifier, Assuring Noiseless, Interference-Free Operation and Extreme
g Life and Reliability.**

STANDARD MODEL—Rated output 6.3 volts at 6.5 amperes.
Size 7⅝"x7¾"x5³⁄₁₆"; shipping weight 18¼ lbs.
Code word "SELIO." List Price........$36.00

HEAVY DUTY MODELS—Two models each using dual rectifiers. Size
8⅜"x13"x5¼" Shipping weight 32 lbs.

odel B—6.3 volts at 14 amperes, code word HELIO. List Price........$59.00

odel T—14 volts at 7 amperes, code word HELIR. List Price........$55.00



Illustrating Heavy Duty Model "A" Battery Eliminator.

l ATR Eliminators have as standard equipment: On-Off Switch, Pilot Light Indicator, 10-Ampere
Rubber Mounting Feet, 6-ft. All-Rubber Cord Set, and Cabinet of heavy gauge metal having
tive black-wrinkled finish.

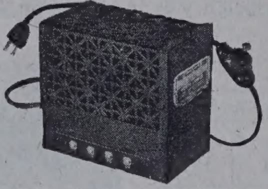
P·L·U·G All GTC Porta-Power

Take advantage of the high lines — A necessity wherever rural electrification has come, or portable radios are owned.

Convert Battery Radios to 105-125 volt, 50-60 cycle lines

Supply all needed power to convert radios to ALL-ELECTRIC operation. Provide constant peak source of completely filtered, hum-free power at a small fraction of the cost of batteries

Model "P"



FOR 6 VOLT RADIOS

"TWIN-POWERED"

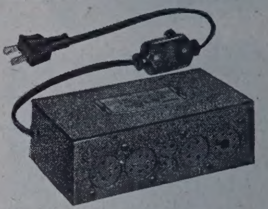
CONVERTS 98% OF ALL 6 VOLT RADIOS

Vibrator disturbance is eliminated and high fidelity performance assured by sensational new design having two separate sources; one for the vibrator and one for the filaments.

Provides two sources of 6 volts at 1½ amps. or connected in parallel 3 amps—Screw type terminals.

Shipping weight approximately 8 lbs. (Size: 3⅝" x 6⅛" x 5½")

Model "U"



FOR 1½ VOLT PORTABLE OR FARM RADIOS of 4 or 5 TUBES

Universal sockets for all types of battery plugs. May be used in any position. Will fit the battery compartment of 99% of all portables.

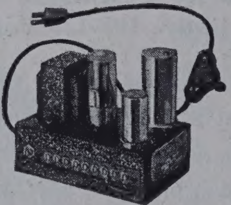
Small enough to be installed permanently in many, in addition to the batteries.

Light weight for portable operation. Great economy for home use.

PROVIDES:
"A"—1.5v at 200 m.a.
"B"—90v at 13 m.a.

Shipping weight approximately 4 lbs. (Size: 2" x 3½" x 6")

Model "L"



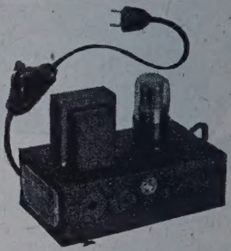
for 2 VOLT RADIOS

Supplies "A", "B" and "C" Power to 4 to 8 tube sets designed for 3 volt Dry Battery, 2.5 volt Air Cell, or 2 volt Storage Cell "A" Power.

PROVIDES:
"A"—2v. D.C.
"B"—67½, 90, 112½, 135v (Can be adapted for 45 volts)
"C"—1½ to 22½v, (2 or 3 "C" voltages if necessary.)
Screw Type Terminals

Shipping weight approximately 6 lbs. (Size: 6 1/16" x 4" x 5⅛")

Model "G"



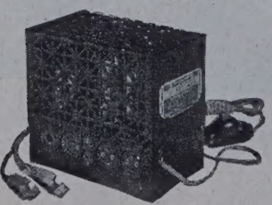
for 1½ volt radios of 4, 5 or 6 tubes requiring more power than model "U" provides.

PROVIDES:
"A"—1.5v at 200 m.a.
1.35v at 250 m.a.
1.55v at 300 m.a.
1.35v at 350 m.a.
"B"—90v at 13 m.a.
101v at 8.5 m.a.

Shipping weight approx. 5 lbs. (Size: 3 9/16" x 6 1/16" x 4 13/16")

OPERATE 1½ VOLT BATTERY RADIOS FROM 6 VOLT STORAGE BATTERY

Model "C"



SUPPLIES 1.4 VOLTS "A" AND 90 VOLTS "B" FROM 6 VOLTS D. C. INPUT

- Replaces "A" and "B" batteries in 1.4 volt portable or farm radios having 4, 5, or 6 tubes.
- Hum and hash free operation.

PROVIDES:
"A"—1.4v at 200, 250 and 300 m.a.
"B"—90v at 10 m.a.
Six Battery Type Sockets

GTC

Shipping weight approximately 5½ lbs. (Size 3¾"x6¼"x6")

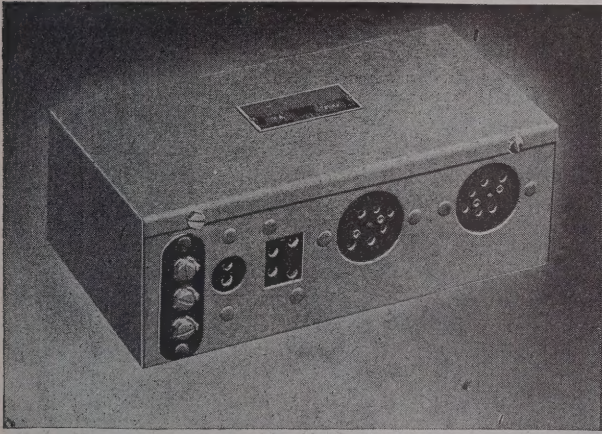
Electro
ELECTRICAL AND RADIO EQUIPMENT

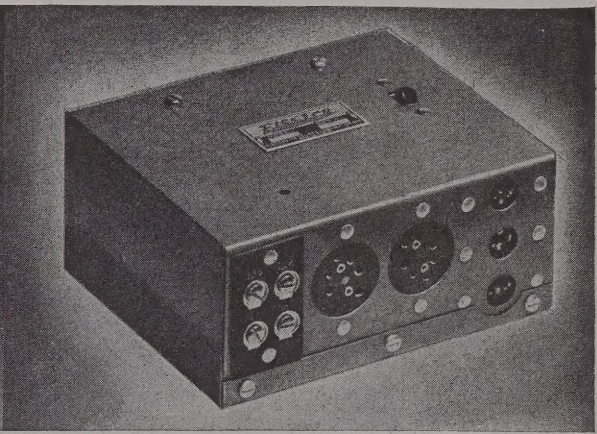
BATTERY ELIMINATORS *of Distinction*

ELECTRIFY *with* ELECTRO

Now battery radio reception can be enjoyed at its best without the usual grief and expense incurred when using batteries. Radio can be used for unlimited periods without fading. Costs but a few cents per hundred hours of operation.

FOUR TYPICAL MODELS are shown here on pages T-7 and T-8. These are ruggedly constituted units of unusually long life—easy to install—no liquids to spill—no moving parts to get out of order and wear out—operate in any position. Completely filtered, hum free and silent in operation. Universal plugs and sockets are provided to accommodate any radio. All units durably finished in blue crystallac.





MODEL "Q" SYNCRO POWER

Operates Any 1.4 Volt—4, 5, or 6 Tube Battery Radio from 6 Volt D.C. Source

This Eliminator is to be used where 115 volt A.C. lines are not available. Will provide all "A" and "B" voltages more efficiently and at lower cost from 6 volt battery. Will operate a 4-tube radio three weeks at 3 hours a day on a single storage battery (100 A.H.) charge. Low battery drain—one-eighth that of ordinary auto radio—one-third that of 6-volt farm radio. Excellent for use at farm, summer cottage or camp, in automobile, motor boat, etc.

Technical Data

"A" Supply Output

5-6 tubes (average)	1.4 V. @ 320 ma.
4 tubes	1.4 V. @ 250 ma.
4 tubes	1.4 V. @ 200 ma.

"B" Supply Output

90 Volts D.C. @ 12 ma. (max.)

Primary

6 Volts D.C. @ 0.8 amp. (for 4 tube radio).

Specifications

Cord and battery clips on primary.
On and Off switch in Eliminator turns power on.
Size: 5″ x 5″ x 2⅜″.
Weight packed: 3½ pounds.

LIST PRICE $16.50

MODEL "R" SYNCRO POWER

Operates Any 2 Volt—4, 5, 6 or 7 Tube Battery Radio from 6 Volt D.C. Source

Ideal for use where 115 volt 60 cycle lines are not available. Provides "A" and "B" power for portable radios for 3 weeks at 3 hours per day from single 100 A.H. storage battery charge. For use with 1A4, 1C7, 1D5, 1E5, 1F5, 1F7, 1G5, 1H4G, etc. Permits longer use of portable radios at less cost and with greater volume. Fine for use at the farm, summer cottage, camp, in motor boat, trailer or auto.

Technical Data

"A" Supply Output

7 tubes	2 V. @ 480 ma.
6 tubes	2 V. @ 420 ma.
4-5 tubes (average)	2 V. @ 325 ma.

"B" Supply Output

67, 90, 112, 135 volts @ 18 ma. (max.).

Primary

6 Volts D.C. @ 1.2 amps. (for 4 tube radio).

Specifications

Cord and battery clips on primary.
On and Off switch in Eliminator turns power on.
Size: 5½″ x 5″ x 2⅜″.
Weight packed: 3½ pounds.

LIST PRICE $17.70

ELECTRO PRODUCTS LABORATORIES

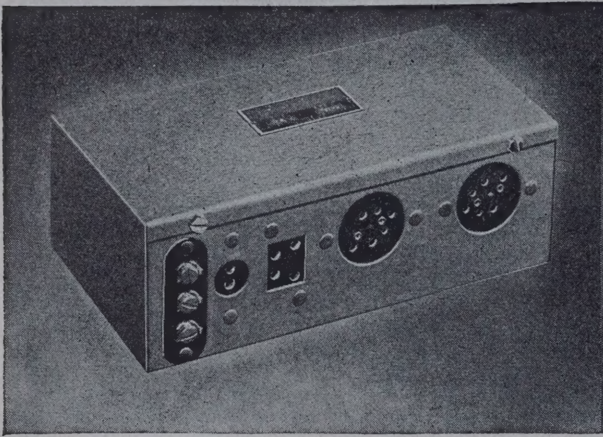
Electro
ELECTRICAL AND RADIO EQUIPMENT

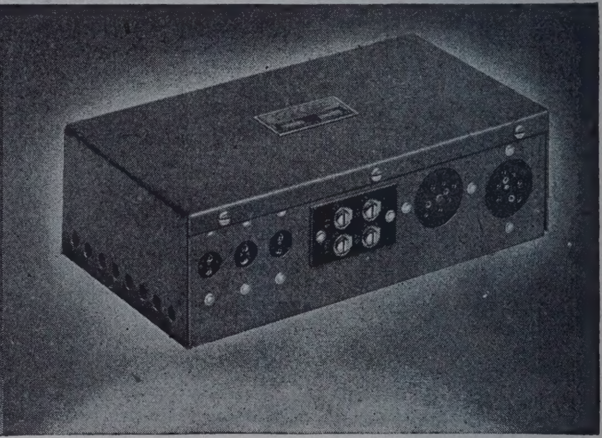
BATTERY ELIMINATORS *of Distinction*

ELECTRIFY *with* ELECTRO

Now battery radio reception can be enjoyed at its best without the usual grief and expense incurred when using batteries. Radio can be used for unlimited periods without fading. Costs but a few cents per hundred hours of operation.

FOUR TYPICAL MODELS are shown here on pages T-7 and T-8. These are ruggedly constituted units of unusually long life—easy to install—no liquids to spill—no moving parts to get out of order and wear out—operate in any position. Completely filtered, hum free and silent in operation. Universal plugs and sockets are provided to accommodate any radio. All units durably finished in blue crystallac.





MODEL "P" COMPACT

Operates Any 1.4 Volt—4, 5, or 6 Tube Battery Radio from 115 Volt 60 Cycle Source

Designed for sets using 1A7, 1E4, 1N5G, 1N5G, 1Q5G, etc., tubes to convert battery radio to an efficient AC receiver with low operating cost. Fits in battery compartment of most radios. Ideal for use in home, hotel, camp or any place where normal AC is available.

Technical Data

"A" Supply Output

5-6 tubes (average)	1.4 V. @ 320 ma.
4 tubes	1.4 V. @ 250 ma.
4 tubes	1.4 V. @ 200 ma.

"B" Supply Output

90 Volts D.C. @ 12 ma. max.

Primary

115 Volts A.C. @ 60 cycles.

Specifications

Six foot card and plug—switch in cord.
Size: 2⅜" x 3½" x 6¾".
Weight packed: 3½ pounds.

LIST PRICE $14.10

MODEL "F" COMPACT

Operates Any 2 Volt—4, 5, 6 or 7 Tube Battery Radio from 115 Volt 60 Cycle Source

For use in receivers employing 1A4, 1C7, 1D5, 1E5, 1F5, 1F7, 1H4G, etc., tubes to change radio into an all-electric set giving maximum performance at all times. Inexpensive to operate. Excellent to use when AC current is available and save batteries for occasions when used as portable.

Technical Data

"A" Supply Output

7 tubes	2 V. @ 480 ma.
6 tubes	2 V. @ 420 ma.
4-5 tubes (average)	2 V. @ 325 ma.

"B" Supply Output

67, 90, 112, 135 Volts D.C. @ 18 ma.

Primary

115 Volts A.C. @ 60 cycles.

Specifications

Six foot card and plug—switch in cord.
Size: 2⅜" x 4½" x 8¼".
Weight packed: 5½ pounds.

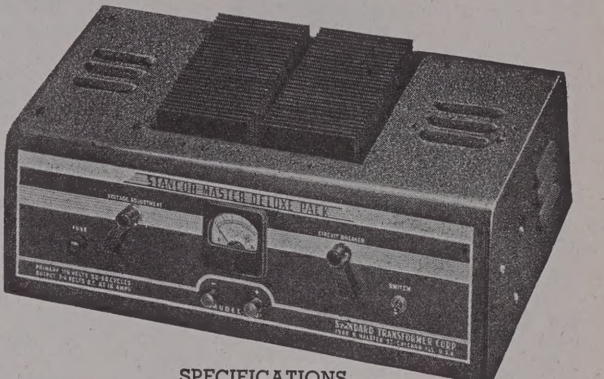
LIST PRICE $16.40

ELECTRO PRODUCTS LABORATORIES

AUTO RADIO DEMONSTRATION PACKS

STANCOR MASTER DELUXE PACK

A heavy duty auto radio demonstration and radio service pack.



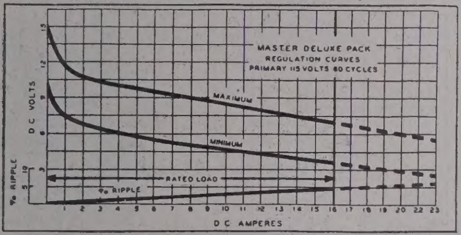
An all-purpose heavy duty, well filtered unit with a multiplicity of applications. Delivers 16 amperes @ 6 volts continuously or 22 amperes @ 2.7 — 6.4 volts intermittently. Will power complete auto radio display boards and operate the largest push button tuning unit. It eliminates several smaller packs or the messy storage batteries. Because of its reserve power it will permit the operation of two or more radios simultaneously for comparison purposes (output will drop, momentarily when push buttons are operated.)

Provides 8 volts @ 9 amperes for testing vibrators by duplicating extreme conditions encountered in actual use. May also be used as a battery charger.

General laboratory, production or other industrial users will find this pack very handy to have around, as it will deliver a variety of voltages for tests and many other applications.

Excellent filtering reduces ripple to less than 5%. A fuse in the primary circuit, together with overload relay, protects the pack and the equipment it is operating.

All controls are mounted on front panel. Voltage is controlled by means of a tap switch in approximately one half volt steps. A high grade voltmeter indicates the output voltage



SPECIFICATIONS

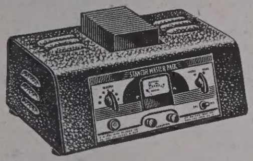
D. C. OUTPUT
No load........11 to 15 volts
Cont. load..16 A., 3 to 6 volts
Max. inst. 22 A., 2.7 to 6.4 volts
Rectifier (2 used) BRIDGE Type 29 radiating 3½" fins.
Filter — heavy current choke — 4000 mfd. condenser
Ripple less than 5%.

POWER SOURCE
115 volts 50-60 cycles A.C.
Input 420 V. A. @ Max. Cont. load
Electrostatic shield
Rotary tap switch
Overload relay protection
Six ft. cord and plug
Size H. 7" x W. 18½" x D. 11"
Weight in carton 50 lbs.

Stancor No. 133

STANCOR MASTER PACK

Provides 6 Volts D.C. for Auto Radio and Accessories.



A compact power unit designed to meet numerous requirements for obtaining low voltage heavy duty D.C. from 115 volt A.C. lines.

Ideal for Auto Radio Sales demonstration, and service test work, effectively operating most push button tuning auto radios. Useful for industrial or laboratory purposes. May also be used as a battery charger, a magnetic field exciter, or for electroplating.

Delivers from 3 to 6 volts (see curve) of well filtered D.C. at 12.5 amperes on continuous duty, or 5 volts at 16 amperes instantaneous load.

Exceptionally well designed filter minimizes ripple to six percent. A fuse in the primary circuit, together with an overload relay, protects the pack and your equipment.

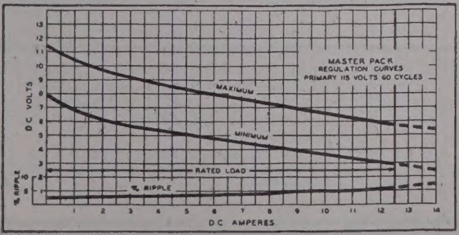
All controls and terminals easily accessible on an inclined front panel. Control switch varies the output voltage in approximately one-half volt steps.

SPECIFICATIONS

D. C. OUTPUT
No load........8 to 12 volts
Cont. load 12.5 A......3 to 6 V.
Max. inst. load 16 A. 2 to 5 V.
Rectifier — full wave with twenty-five 3½" radiating fins.
Filter — heavy current choke with 4,000 mfd. condenser.
Ripple less than 6%

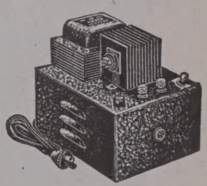
POWER SOURCE
115 volts 50-60 cycles A. C.
325 watts at continuous load.
Overload relay adjusted to 20 amperes.
Electrostatic shielded transformer.
Dimensions L. 13½"; W. 8¾"; H. 6".
Weight in carton 26 lbs.

Stancor No. 132



STANCOR ECONOMY PACK

Provides Well Filtered 6 Volts D.C. from Power Line



The Economy 131 Pack is one of the lowest priced and most compact units having well filtered D.C. output. The output current is rated lower than the 132 Master Pack, but the quality of the output is the same.

Here is a powerful little pack without extra controls that will furnish plenty of amperes for most requirements.

Output terminals are conveniently located for connections. Protection from damage is assured by the easily replaced fuse. "On-off" toggle switch is within easy reach. A bright jeweled pilot light indicates whether power is "on" or "off".

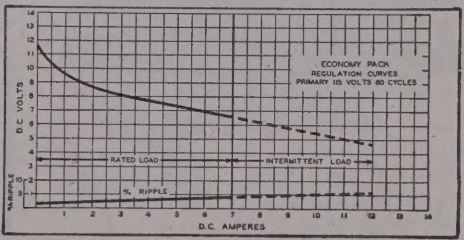
The unit can be used wherever the adjustment of voltage is not necessary. It is well adapted to radio, auto and industrial use. The pack will normally operate one auto radio with remote control.

SPECIFICATIONS

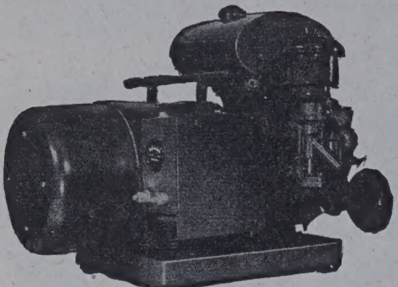
D. C. OUTPUT
No load ....11 volts
Continuous load 7A...6.5 V.
Max. inst. load 12A...4.5 V.
Rectifier—full wave with thirteen 2½" radiating fins.
Filter — heavy current choke with 4000 mfd. condenser.
Ripple less than 4.5%

POWER SOURCE
115 volts 50-60 cycles A.C.
175 watts at continuous load
Electrostatic shielded transformer
Fuse connected in primary
Jeweled pilot light
Six foot cord and plug
Dimensions L. 8", W. 6¼", H. 7¼"
Weight in carton 16½ lbs.

Stancor No. 131



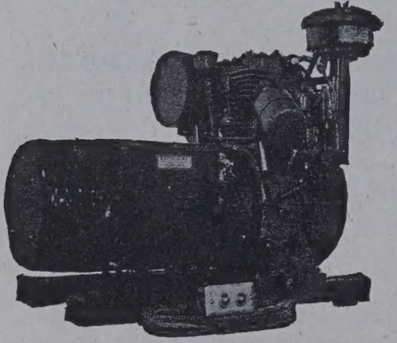
110 VOLT AC ANYWHERE WITH KATOLIGHT!



Model 23HAJ4

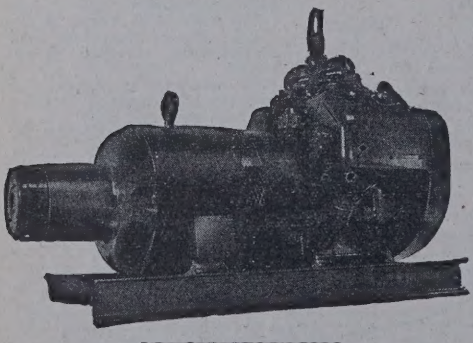
500 watt, 115-volt, 60-cycle, A.C. KATOLIGHT plant powered with a Johnson 1 h.p., single cylinder, 4 cycle, aircooled engine. Approximately 21" long x 16½" wide x 17½" high, net wt. 135 lbs., shipping wt. 170 lbs. As a special feature this model is furnished with start and stop button right on the generator, with cutout, D.C. ammeter, charge control resistor and battery cables.

The above unit can be furnished as a 12- or 32-volt battery charging plant upon specification. Write for quotations.



Model 28HAB4

1500 watt, 115-volt, 60-cycle, A.C. KATOLIGHT plant powered with Briggs & Stratton 4 h.p., 1 cylinder, 4 cycles, aircooled engine. (Illustrated with 40-ft. Remote Control. Standard models are furnished with manual cranking arrangement.) 30$\frac{7}{16}$" long x 25¾" high x 20¾" wide, net wt. approximately 300 lbs., shippnig wt. 365 lbs.



Model 45MGW4

5000 watt, 115/230-volt, 60-cycle, single phase, four wire, 1800 r.p.m., revolving field type Katolight A.C. generator powered with a Wisconsin, four cylinder, aircooled engine. 54$\frac{17}{32}$" long x 32⅞" high x 21½" wide. Net wt. ...... lbs.

CONTINUOUS DUTY — ECONOMICAL RUGGEDLY CONSTRUCTED — PORTABLE

Designed for sound trucks, homes, cottages, trailers, farms or any place where plant is desired for running many hours daily and expected to give years of trouble-free service.

KATOLIGHT PLANTS are the result of actual experience in the light plant field; the result of much laboratory and actual field tests. The engine that will give the best performance is selected for each model. Engine manufacturers are known internationally and maintain service stations in key cities in U. S., Canada and foreign countries. The user is assured of service and parts from authorized service stations.

KATOLIGHT PLANTS are already to go by simply adding a little gasoline and oil and connecting to the lines; complete with engine, generator, base, fuel tank, instruction manual, hand crank.

GAS ENGINE DRIVEN PLANTS

500 to 5000 Watts, Aircooled, 110-volt A.C., 60 Cycle, 1800 R.P.M.

Watts Capacity	Model	Code	Battery Necessary for Self-Cranking	Net Wt.	Ship. Wt.	List Price
500 A.C.	23HAJ4	ABTOL	1-6V.	135	170	$ 158.00
600 A.C.	14HAB4	ALERT	2-6V.	172	220	210.00
1000 A.C.	26HAB4	ABBOT	2-6V.	265	295	298.00
1500 A.C.	28HAB4	ABEAR	3-6V.	350	409	365.00
2000 A.C.	30HAB4	ABIDE	3-6V.	360	450	450.00
5000 A.C.	45HAW4	ACTAN	5-6V.	860	990	850.00

10,000 to 25,000 Watts, A.C., Watercooled, 1800 R.P.M.

Watts Capacity	Model	Code	Battery Necessary for Self-Cranking	Net Wt.	Ship. Wt.	List Price
10,000 A.C.	49MAK4	ALBUN	1-6V.	1100	1300	1460.00
15,000 A.C.	52MAK4	ACTIV	1-6V.	1300	1300	1630.00
25,000 A.C.	55MPK4 (3 ph only)	ACTAV	1-6V.	2260	2475	2300.00

10,000 to 25,000 Watts, A.C., Watercooled, 1200 R.P.M.

Watts Capacity	Model	Code	Battery Necessary for Self-Cranking	Net Wt.	Ship. Wt.	List Price
10,000 A.C.	49MAK6	ALBUS	1-6V.	1300	1500	1630.00
15,000 A.C.	52MAK6	ALBAT	1-6V.	1400	1600	1760.00
25,000 A.C.	55MAK6 (3 ph only)	ALBUT	1-6V.	3300	3500	2600.00

Watts Rating at 100% Power Factor (Lamp Load)

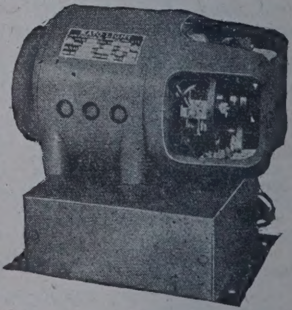
Available in all standard voltages other than list, at a LIST EXTRA cost of . . . $35.00. Also available for 32-volt direct current operation on specification at an ADDITIONAL LIST of $15.00 on sizes through 2000 watts or an ADDITIONAL LIST of $35.00 on sizes 5000 watts and larger.

LIST PRICES—ACCESSORIES

Battery Charging Controls (Manual start and stop)—32-volt D.C. models under 2000 watts; 110-volt D.C. models under 5000 watts	$ 33.00
Battery Charging Control (Manual start and stop)—32-volt D.C. models over 2000 watts; 110-volt D.C. models 5000 watts and over	60.00
40-Ft. Remote Control (For starting and stopping plant 40 ft. or less away)—A.C. models only	20.00
500-Ft. Remote Control (For starting and stopping plant 500 ft. or less away)—A.C. models only. 2000 watt plants and under. (No control wire furnished.)	35.00
500-Ft. Remote Control (For starting and stopping plant 500 ft. or less away)—A.C. and D.C. plants over 2000 watts. (No control wire furnished.)	120.00
Full Automatic Control — 2000 watt plants and under. A.C. plants only	100.00
Full Automatic Control — For model 45HAW4	150.00
Special Mufflers and 5-Ft. Flexible Exhaust Tubing	9.00
Remote Control Station Only—Including 40-ft., 3-wire control cable	5.00

KATO KONVERTERS

Kato Konverters furnish standard 115-volt, 60-cycle A.C. from a source of 32, 115 or 230-volts direct current. Ideal for operating radio and electronic equipment, appliances, etc. All steel frames available. Send for bulletins and prices. (Model 5 KA43, 225-watt illustrated.)



A maneuvering fighting force can't wait for power line hook-up—they must provide their own current. Standard A.C. electricity, the same as you get from the power line, must be available on the spot when and where it is needed. Katolight Generators are producing this current right on the battle fields in every part of the world.

Manufacturers of A.C. & D.C. Generators, Rotary Konverters, A.C. & D.C. Power Plants, Motor-Generators, Frequency Changers, High Frequency Generators, Gas-Engine Driven Battery Chargers, etc. Write for quotations and specifications.

DYNAMOTORS
CONVERTERS

Carter

MAGMOTORS
GENERATORS

CARTER SUPER DYNAMOTOR

The Carter Super Dynamotor is widely acclaimed as the finest and most reliable Power Supply by leading Communications Equipment Manufacturers, Engineers, Police Departments, Government Agencies, etc. Exacting care in the selection and design of armature, brushes, commutators, bearings, and other component parts, assures trouble-free, efficient operation. Excellent regulation, minimum AC ripple, easy to filter and install.

SUPER DYNAMOTOR
8¼″ long, 4½″ wide, 4¾″ high, weight 13 lb.

Type No.	Input Volts	Input Amps	Output Volts	Output M.A.	Duty	List Price
A450	6	26.4	400	250	Con.	$55.00
A520	6	26.4	500	200	Con.	60.50
A530	6	39.2	500	300	Con.	75.00
A650	6	39.2	600	250	Con.	75.00
AFS630	6	47.4	600	300	Int.	77.00
HIGH VOLTAGE SUPER DYNAMOTOR 10¼″ long, 4½″ wide, 4¾″ high, weight 19¼ lbs.						
B540	12	24.9	500	400	Con.	$ 92.00
B820	12	21.3	800	200	Con.	96.00
B1150	12	19.1	1000	150	Con.	105.00
BS1250	12	20.5	1000	250	Int.	115.00

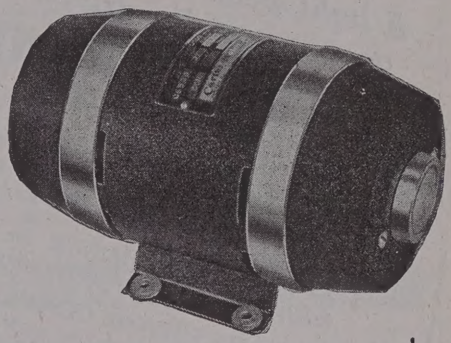
All models listed on this page available for any standard input from 5.5 to 115 volts DC, add $2.00 to price. Add X to Code No. for Standard Filter, 500 volts and under, $15.00 to price; over 500 volts $20.00.

Add R to Code No. for starting relay and $8.00 to price.

Special Super models for two or more outputs available.

Other voltages to 3000 volts can be supplied.

Send for catalogue 100.



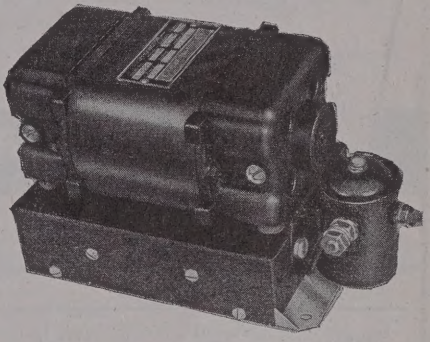
CARTER SUPER DYNAMOTOR

CARTER GENEMOTOR

The oldest Genemotor in continuous production! That's the record of the Carter Original Genemotor. Available in 3 frame sizes, it is the recognized standard Power Supply of two-way Police Radio, Aircraft, Amplifier, and Marine radio equipment. Minimum ripple. efficient and dependable.

1½″ frame, 5$\frac{9}{16}$″ long, 4⅛″ wide, 3½″ high, weight 7 lbs.

Type No.	Input Volts	Input Amps	Output Volts	Output M.A.	Duty	List Price
210A	6	6.1	200	100	Con.	$30.00
251A	6	7.9	250	100	Con.	32.00
351A	6	10.9	350	100	Con.	34.00
2″ frame, 5$\frac{9}{16}$″ long, 4⅛″ wide, 3½″ high, weight 8 lbs.						
335A	6	14.0	350	150	Con.	$38.00
415A	6	18.2	400	150	Con.	40.00
3″ frame, 7⅛″ long, 4⅛″ wide, 3½″ high, weight 10 lbs.						
320A	6	18.2	300	200	Con.	$42.00
420A	6	23.4	400	200	Con.	45.00
450AS	6	27.4	400	250	Int.	51.00
520AS	6	27.4	500	200	Int.	51.00
620AS	6	32.0	600	200	Int.	59.00



CARTER ORIGINAL GENEMOTOR

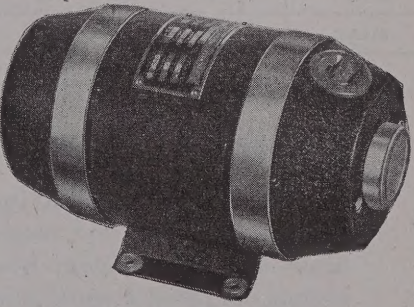
CARTER SUPER CONVERTER

The Carter Super Converter is a small, compact, quiet running, two pole, 3600 RPM fan-cooled unit for changing direct current to alternating current. This long life double wound type unit is ideally suited for radio equipment, public address systems, musical instruments, testing devices, small signs, etc. Available in 85 to 100% Power Factor only, ball bearing equipped.

8¼″ long, 4½″ wide, 4¾″ high, weight 13 lbs.

Type No.	Input Volts	Input Amps	Output Volts	Output Volts-Amps	List Price
D1060	115	1.0	110	60	$40.00
D1080	115	1.3	110	80	41.00
D1010	115	1.9	110	110	43.00
D1015	115	2.6	110	150	46.00
A1060	6	16	110	60	55.00
A1080	6	21	110	80	60.00
A1010	6	25	110	100	65.00

The above Converters can also be supplied for 12, 24, 28 and 32 volt DC input. Add X to Code No. for filter and $20.00 to price.



CARTER SUPER CONVERTER

CARTER MAGMOTOR

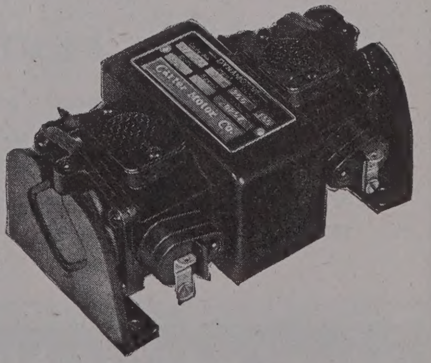
The exclusive patented Permanent Magnet field design of the Carter Magmotor permits higher efficiency, longer life, and greater output from a small, compact frame.

The preferred Power Supply for Police Mobile FM and AM receivers, small aircraft transmitters. Low drain, ball bearing equipped.

5⅝″ long, 3$\frac{11}{16}$″ wide, 2½″ high, weight 4¾ lbs.

Type No.	Input Volts	Input Amps	Output Volts	Output M.A.	Duty	List Price
MB250	12	2.1	250	50	Con.	$34.00
MB251	12	3.9	250	100	Con.	36.00
MB301	12	4.5	300	100	Con.	37.00
MBS355	12	7.1	350	150	Int.	40.00
MBS420	12	10.8	400	200	Int.	50.00
MBS450	12	12.8	400	250	Int.	60.00
MBS520	12	12.8	500	200	Int.	60.00

Magmotors also supplied for 5.5, 6, 24, 28, 32 and 115 Volt DC input.



CARTER MAGMOTOR

CYCLOHM POWER PLANTS

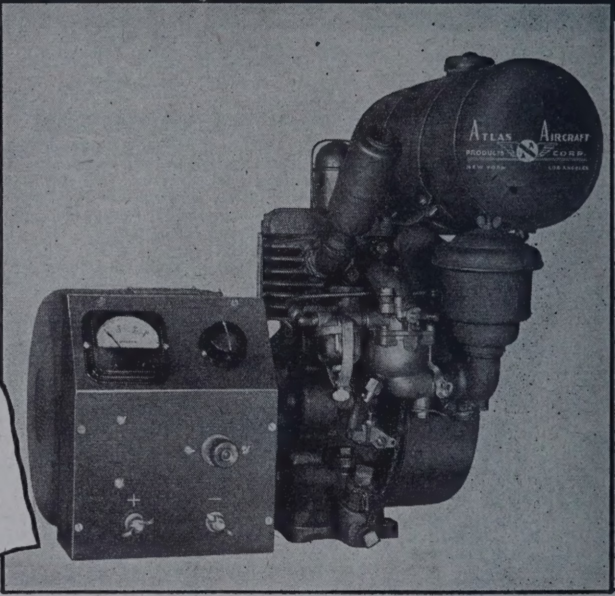
A light weight, portable gasoline engine driven

D C GENERATOR UNIT

for use . . .

- As a portable or fixed LIGHTING PLANT, in conjunction with suitable batteries, for farms, cottages, emergency equipment.
- As a BATTERY CHARGER for mobile farms, cottages, emergency equipment.
- As an ALL PURPOSE GENERATOR unit for applications such as motorized appliances, heaters, electrolysis, etc.

Inquiries are invited concerning your special requirements. Our engineering department will be glad to assist you in selecting a suitable power unit.



GENERAL SPECIFICATIONS

SERIES E

Model	Power Output Watts		Voltage	Max. Charg. Rate	RPM	Net Weight	Domestic Ship. Wt.	Export Ship. Wt.
E11A01	400	@	6	67 amps.	3600	76 lbs.	86 lbs.	100 lbs.
E12A01	500 250	@ @	12 6	42 amps.	3600	79 lbs.	88 lbs.	102 lbs.
E13A01	500	@	24	21 amps.	3600	79 lbs.	89 lbs.	103 lbs.
E14A01	500	@	32	16 amps.	3600	79 lbs.	89 lbs.	103 lbs.

STANDARD EQUIPMENT

Standard equipment includes: oil bath air cleaner—gasoline filter—specially designed dust and moisture proof high tension flywheel magneto—gasoline tank—screened blower housing—muffler—reverse current battery cutout—push button operated electric circuit for battery starting—starter rope—spark plug and oil filler cap wrench—instructions for operating—

OPTIONAL EQUIPMENT

Special equipment available includes: ignition radio shielding—carrying handle—battery charging cables with terminals (in multiples of 3 feet)—connections and flexible hose for exhaust extension—remote control starting and stopping—vibration insulated sub-base—fungus proofing—stellite faced valves and seats for operation on highly leaded fuels—

a product of **ATLAS AIRCRAFT PRODUCTS CORPORATION**

CYCLOHM POWER PLANTS

ENGINE SPECIFICATIONS

TYPE: 4-cycle, single cylinder, L-Head.

AIR-COOLED: Powerful flywheel blower forces air blasts through deep cooling fins on cylinder and head.

IGNITION: High tension built-in flywheel magneto, moisture and dust-proof.

LUBRICATION: Pump and splash system.

CARBURETER: Specially designed float-feed type, adjustable.

FUEL TANK: 1 gallon capacity.

GASOLINE FILTER: Bowl type, easily cleaned.

OIL RESERVOIR: 1 pint capacity.

CRANKSHAFT: S.A.E. X1340 steel, drop forging with counter weights integral with shaft.

PISTON: Aluminum alloy, treated for surface hardness.

VALVES: Alloy steel intake valve, Silchrome exhaust valve.

EXHAUST VALVE SEAT: Hardened steel alloy insert.

VALVE GUIDES: Inserted Molybdenum alloy.

CYLINDER AND CRANKCASE: Close-grained grey iron.

CYLINDER HEAD: Grey iron, removable, with extra deep fins.

AIR CLEANER: Efficient oil-bath type.

GENERATOR SPECIFICATIONS

OUTPUT: May be varied over wide range up to rated output by means of rheostat knob on control panel.

ARMATURE: Formex wire, phenolic impregnated and baked, finish ground and balanced. Direct mounted on engine shaft. No bearings.

FIELD COILS: Formex wire, phenolic insulated, taped, and baked for greatest protection against moisture.

FRAME: Machined from seamless steel tubing.

FIELD POLES: Laminated electrical steel, 4 poles.

COMMUTATORS: Hard drawn copper bars, mica insulated, pressed on shaft.

BRUSHES: Best grades, moulded, selected for long life, low commutator wear, and good commutation.

BRUSH HOLDERS: Box type, fastened in permanent alignment.

END COVER: Removable for access to brushes, etc.

CORROSION RESISTANCE: All essential parts are plated or treated to resist corrosion.

COOLING: Specially designed fan, extra large for efficient cooling, is mounted directly on armature shaft.

ELECTRICAL CONTROL

ELECTRIC STARTING: Push button starting from battery through special generator winding.

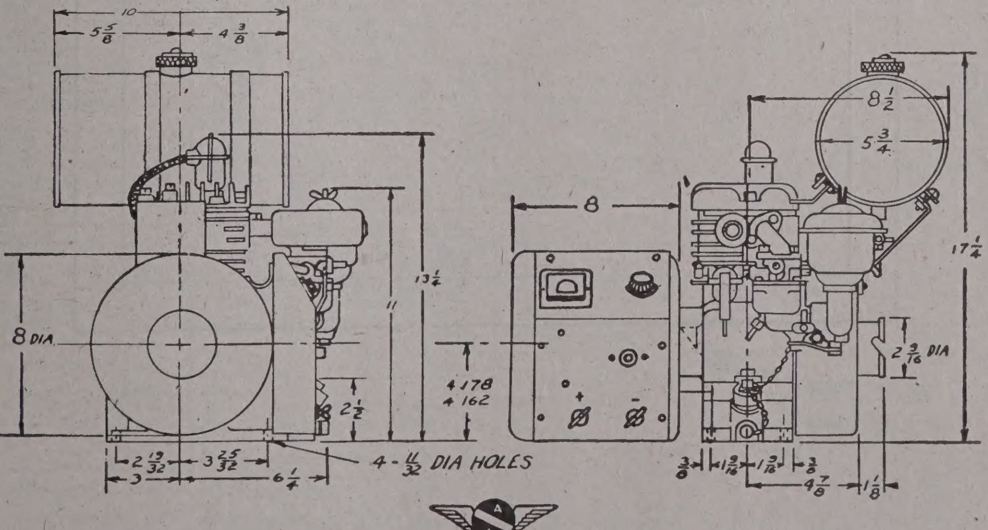
AUTOMATIC REVERSE CURRENT CUTOUT: Prevents discharging of battery through unit when generator voltage falls below battery voltage, or when unit is stopped.

AMMETER: Indicates charging rate of plant. Repulsion type, accurate, rugged construction.

TERMINALS: Wing nut binding posts, positive and negative, for connecting battery cables (¼" diameter).

RHEOSTAT: Circular, vitreous enamel coated, rugged, controls charging rate.

CONTROL BOX: Steel, spot welded, attached rigidly to frame, encloses controls.



ATLAS AIRCRAFT PRODUCTS CORPORATION, New York, N.Y., U.S.A.

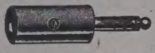
Thank You!

When writing for additional
information or when ordering
from sources of supply listed
in this book, please mention

RADIO'S MASTER

ICA INSULINE ICA
RADIO PRODUCTS

ICA Bakelite Double Phone Plug



No. 24B—Black ....Net $.36
No. 24R—Red ....Net .36

ICA Midget Phone Plug

Overall length—2⅝". Diameter of barrel $\frac{5}{16}$".

No. 29B—Black ....Net $.36
No. 29R—Red ....Net .36

ICA Stubby Shielded Phone Plug

Barrel Measures $\frac{11}{16}$" diameter x 1" long.
No. 27. Net $.48

ICA Midget Shielded Phone Plug

Diameter of Barrel $\frac{5}{16}$". Overall size of Plug 2¼"

No. 30..Net $.42

ICA 3-Wire Microphone Plug

The ICA 3-Wire Microphone Plug has solder connections for cable or microphone use. Barrel molded of bakelite with brass parts, nickel plated.

No. 1901..........................Net $.66

ICA Shielded Double Phone Plug

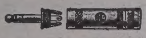
Nickel Barrel
Brass Shell
Nickel Plated

Supplied with pure gum rubber insulating bushing.

No. 25..............................Net $.60

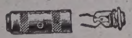
ICA Shielded 3-Wire Microphone Plug

Shielded
Nickel Barrel



No. 1900..........................Net $.93

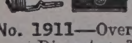
ICA Shielded 3-Way Portable Microphone Jack



For all types of microphones. Sturdily constructed of brass parts with phosphor bronze springs. Nickel plated and thoroughly insulated.

No. 1904..........................Net $.90

ICA Bakelite Portable Jacks

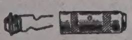


Single Open Circuit

No. 1911—Overall Size 1¾" Diameter ¾" ....Net $.42

ICA Shielded Portable Jack

Single Open Circuit



No. 1913—2¼" Long, $\frac{11}{16}$" Diameter ....Net $.75

ICA 3-Way Microphone Jack

Small compact size where minimum space is important. Excellent insulation and positive contact.

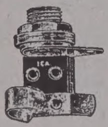
No. 1902..........................Net $.60

ICA Panel Mounting Jacks

Small and Compact

No.	Net
325—Single Open Circuit	$.30
1905—3-Way Microphone Jack	.45

ICA Single Open Circuit Jack



No. 362......Net $.30
Single Closed Circuit
No. 363......Net $.30

ICA Insulated Tip Jacks

With receptacle for standard phone tips.

No.	Net
889B—Black	$.11
889R—Red	.11

Insulated Banana Jacks

With receptacle for banana plugs.
No. 888B—Black ....Net $.11
No. 888R—Red ....Net .11

ICA Bakelite Insulated Tip Jacks

Moulded of Low-Loss Bakelite

No.	Net
1889—Black	$.13
1890—Red	.13

Bakelite Banana Type Jacks

No. 1891—Black ....Net $.13
No. 1892—Red ....Net .13

ICA Combination Banana Plug or Phone Tip Jack

Made to take Banana plug or standard phone tips interchangeably. Insulated cap in black and red—Complete with Washers and nuts.

No. 528R—Red ....Net $.18
No. 528B—Black ....Net .18

ICA Insulated Binding Posts with Jack for Banana Type Plug

Length 1⅜" overall when top is up. Extends ⅝" above panel when top is screwed down. Fitted with 8/32 screw $\frac{5}{16}$" long, and two hex nuts.

No.	Net
622—Red	$.18
623—Black	.18

ICA Bakelite Binding Posts

$\frac{9}{16}$" Diameter Head with Brass Threaded insert, Nickel Plated Screw and Knurled nut.

No.	Net
617—Red	$.11
618—Black	.11

ICA Insulated Midget Phone Tip Plug

Fits all standard jacks. Tip is threaded. Overall length 1⅛".

No.	Net
876R—Red	$.12
876B—Black	.12

ICA Midget Sharp Point Threaded Phone Tip Non-Insulated
No. 365........Net $.09

ICA Insulated Solderless Plug

2¼" long—fits all standard phone tip jacks.

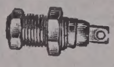
No. 885B—Black ....Net $.13
No. 885R—Red ....Net .13

ICA Sr. Solderless Plugs

1$\frac{11}{16}$" overall length.
No. 358
Net $9.00 per 100

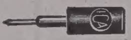
ICA Brass Tip Jacks

Nickel Plated
No. 357
Net $9.00 per 100



ICA Insulated Needle Point Tip Plug

886B — Black
Net $.13
886R — Red
Net $.13



ICA Alligator Clips

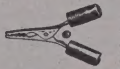
Good firm grip. Ideal for work in tight places. Overall length 2".

No. 364..........................Net $.07

ICA Insulated Alligator Clips

No. 884B—Black ....Net $.15
No. 884R—Red ....Net .15

ICA Insulated Double Handle Alligator Clips



No.	Net
925—Red	$.18
926—Black	.18

ICA Insulated Solderless Split Banana Plugs

Set screw provided at side of barrel to fasten screw without soldering.

1½" Long
No. 883B—Black ....Net $.15
No. 883R—Red ....Net .15

2½" Long
With sleeve covering set screws.
No. 882B—Black ....Net $.27
No. 882R—Red ....Net .27

4" Long
With sleeve covering set screws.
No. 881B—Black ....Net $.36
No. 881R—Red ....Net .36

Insulated Spade Lug

Insulated Spade Lug with banana plug receptacle on lead end.

No. 887B—Black ....Net $.12
No. 887R—Red ....Net .12
10 in Standard Carton.

ICA Spade Lug

Can be used on any size screw or terminal up to size 10. Receptacle fits all I.C.A. and other make Banana Plugs.

No. 879....................Net $4.20 C
100 in Standard Package

Giant Insulated Transmitting Plugs and Jacks

Plug-in type with positive grip contacts. Equipped with heavy insulated threaded heads and handles for safe handling on high R.F. currents.

Handle 1,000 Volts at 10 Amps.

No.	Net
450—Medium Plug-RED	$.33
451—Medium Plug-BLACK	.33
452—Medium Jack-RED	.57
453—Medium Jack-BLACK	.57
454—Giant Plug-RED	.45
455—Giant Plug-BLACK	.45
456—Giant Jack-RED	.69
457—Giant Jack-BLACK	.69

ICA Split Banana Plugs

For positive and durable spring action. Allows spring to fit into jack, cannot bend out of shape — Complete with two nuts.

No. 403............Net $.09

ICA Transmitting Banana Jacks

No.	Net
402—Nickel Plated Brass	$.09
1891—Insulated Black Bakelite	.13
1892—Insulated Red Bakelite	.13

Beryllium Banana Plugs

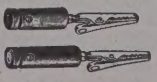
Approved by the Signal Corps and other government agencies. These plugs are used in all government equipment. Made of Beryllium copper and guaranteed for its spring and durability. Threaded plug accommodates 6/32 nuts.

No. 419—Overall size $\frac{13}{16}$" Long. Shank Length ¼" Long. Diameter of Shank ⅛".

No. 420—Overall size 1⅛" Long. Threaded Shank Length ⅜" Long Threaded for 6/32 nuts.

No. 419..........................Net $.12
No. 420..........................Net .21

ICA Insulated Combination Jack Alligator Clip



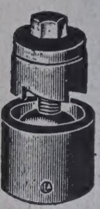
An insulated alligator clip with a dual purpose Jack in catalin sleeve—Equipped with the new combination Jack which takes either solderless phone tip or Banana plug. Overall length—2⅜".

No. 520R—Red ....Net $.36
No. 520B—Black ....Net .36

ALL PRICES SHOWN ARE DEALER'S NET COST

ICA INSULINE ICA
RADIO PRODUCTS

ICA SHEARING PUNCHES



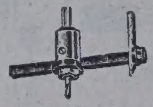
Now! No Hammering Necessary to Punch Chassis Holes.

Shearing is accomplished with a wrench which forces shear punch into die. Made of High Grade Steel.

No.	Size of Hole	Net
725	¾″	$2.55
726	1.70	3.00
727	1⅛″	3.00
728	1 $\frac{3}{16}$″	3.00
729	1¼″	3.00
730	1⅜″	3.30

ICA Improved All-Purpose Circle Cutter

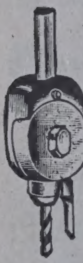
Will Cut Holes from ¾ to 8 Inches



Cutting bar holder is 1″ in diameter and also accommodates a centering drill or any size pilot pin. Cutting bar is ⅜″ square and is arranged to hold a $\frac{3}{16}$″ high speed cutting bit.

No. 775 .... Net $3.96

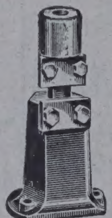
ICA Universal Multi-Purpose Cutting Tool



This handy tool can be used for counter-sinking, beading, drilling or cutting holes. Equipped with $\frac{3}{16}$″ holes from $\frac{7}{16}$″ diameter up to 3″ diameter. Can be used either in drill press or hand brace. Also acts as a boring tool when used in a lathe.

No. 780 .... Net $2.40

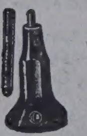
ICA SQUARE HOLE SHEARING PUNCH



This new punch permits the cutting of any size odd-shape hole (square rectangular, hexagon, oblong, etc.) on any size panel or chassis. Good for Enlarging or punching TRANSFORMER Holes.

No. 790 .... Net $9.90

ICA RIVET AND EYELET PUNCH SET



A Universal Tool that can be used for either riveting or eyeletting. Holder is made of cast iron with hexagonal sides, thus permitting the tool to be placed in a vise without slipping.

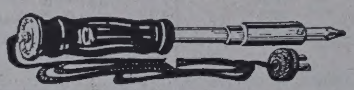
No. 785—Complete with ample assortment of eyelets and rivets. **Net $2.40**

RIVET & EYELET ASSORTMENT

Additional eyelets and rivets can be purchased separately.

No. 5265—(Assortment of 100) .... Net $.48

ICA SOLDERING IRONS



ICA Highest Quality Soldering Irons are "Best By Test". Each model is submitted to the most severe tests and results prove conclusively that ICA irons are equal, if not superior, to any soldering iron on the market today.

60 WATT IRON

No. 1960-A—110-115 Volts .... Net $3.00

85 WATT IRON

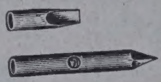
No. 1962-A—110-115 Volts .... Net $3.90

115 WATT IRON

No. 1961-A—110-115 Volts .... Net $4.50

ICA SOLDERING IRON TIPS

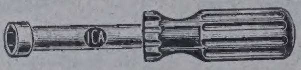
For American Beauty Irons



Made of special copper alloy. Ends are hot tinned. For replacement in American Beauty Irons and other makes that have the same specification for size.

No.	Length	Diam.	Net
1937	4⅝″	⅜″	$.66
1974	1⅜″	$\frac{7}{16}$″	.39

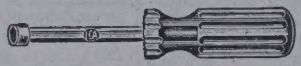
ICA Unbreakable Volume Control Wrench



Socket is $\frac{9}{16}$″ diameter.

No. 937 .... Net $1.05

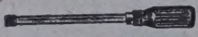
ICA UNBREAKABLE "TURN-TITE" SOCKET WRENCHES



7½″ long. Handle is of ribbed shockproof unbreakable material.

No.	Net
940—$\frac{3}{16}$″ socket	$.57
941—¼″	.57
942—$\frac{5}{16}$″	.57
943—$\frac{11}{32}$″	.57
944—⅜″	.57
945—$\frac{7}{16}$″	.57
946—½″	.57
949—(Set of 7 Wrenches as above)	3.99

ICA "TURN-TITE" SOCKET WRENCHES

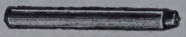


HOLLOW SHAFTS

Made of hardened steel, cadmium plated, with sturdy Black japanned wooden handles.

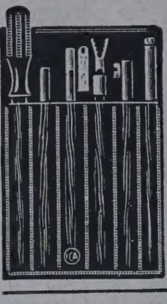
6 Inches Long No.	Net	9 Inches Long No.	Net
898—$\frac{3}{16}$″	$.30	900—$\frac{3}{16}$″	$.36
890—¼″	.30	894—¼″	.36
891—$\frac{5}{16}$″	.30	895—$\frac{5}{16}$″	.36
892—⅜″	.30	896—⅜″	.36
893—$\frac{7}{16}$″	.30	897—$\frac{7}{16}$″	.36
899—½″	.30	901—½″	.36
910—Set of 6 Wrenches	1.80	911—Set of 6 Wrenches	2.16

RIVET & EYELET SETTING TOOL



No. 786 .... Net $.54

ICA DE LUXE NEUTRALIZING and ALIGNING TOOL KIT



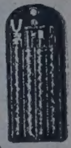
Complete for Every Service Need

Consists of fourteen tools, most of which telescope into one another, forming six units when assembled into the attractive black leatherette case.

The complete kit in carrying case can be kept in the pocket. Tools complete with carrying case.

No.	Net
994	$4.50

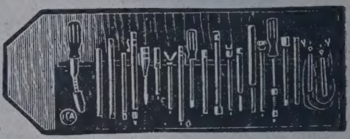
ICA NEUTRALIZING AND ALIGNING TOOL KIT



The Kit consists of twelve separate and distinct parts, some of which can be employed for several operations. These units telescope into each other, forming four separate tools when assembled.

No. 998 ....$3.90
Complete With Carrying Case

ICA Complete Neutralizing Tool Kit

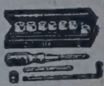


The kit consists of one of each of the following ICA tools, described herein:—No's 382, 1008, 987, 1015, 976, 996, 992, 985, 990, 1024, 1019, 1026, 1022, 1004, 1013, 1028, 1039, 1029, 1033, 935, 937.

Total list of tools if purchased individually $18.50.

No.	Net
995—Kit, Complete with Carrying Case	$12.00

ICA LOCK SOCKET WRENCH and SCREW DRIVER SET.



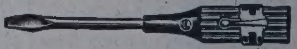
Actually a set that will take care of all socket wrench requirements, either radio or electrical, ignition or mechanical needs.

All parts are steel cadmium plated and are packed in an attractive box. The set includes the following:

1—Screw Drives and Handle
1—¼″ Hex Handle and Extension Ell Shaped —5″ long
1—¼″ Hex Staright Extension—3″ long
1—Socket which holds the extensions to screw drives
1—$\frac{3}{16}$″ Socket
1—$\frac{11}{32}$″ Socket
1—⅜″ Socket
1—$\frac{7}{16}$″ Socket
1—Internal Knurled Socket to fit any 12 point Double Hex nut between size $\frac{3}{16}$″ and ⅜″
1—¼″ Socket

No. 999 .... Net $1.50

ICA AMBER COLORED UNBREAKABLE MIDGET SCREW DRIVER



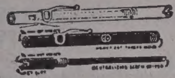
Particularly shaped to fit into set screws of knobs. Complete with pocket clip. Length 4⅝″.

No. 1013 .... Net $.15
No. 1017—Length 6″ .... Net .18

ALL PRICES SHOWN ARE DEALER'S NET COST

ICA INSULINE ICA
RADIO PRODUCTS

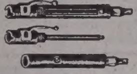
ICA 4-in-1 NEUTRALIZING TOOLS, SCREW DRIVER and WRENCH



Made of Fenoline
Fully Insulated

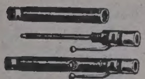
No. — Net
1019—Complete as shown .... $.60
1020—Majestic Attachment for #1019 .21
1021—Crosley Attachment for #1019.... .21

ICA 5-in1 NEUTRALIZING AND COMPENSATING TOOL



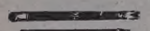
Same features as the 4-in-1 tool described above with an additional all metal screw driver.
No. 1022 .... **Net $.90**

ICA 3-in-1 NEUTRALIZING TOOL



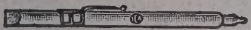
With Metal Nibs
Made of Sturdy Fenoline Material, with Brass Nickel Plated Metal Nibs. Unbreakable.
No. 988 .... **Net $.75**

ICA Neutralizing Tools with Metal Nibs



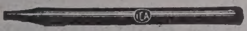
Patent No. U.S. 83,321
Sturdy, unbreakable, will outlast all other type neutralizing tools.
No. 996 .... **Net $1.05**

LO-LOSS ALIGNING TOOL
Transparent Lucite



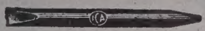
Have extremely low capacity and high Q. Will not affect the most delicate electrical balance.
No. 1035 .... **Net $.30**

ICA BONE FIBRE SCREW DRIVER



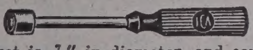
Made entirely of $\frac{5}{16}$" bone fibre rod with a sturdy blade.
No. 1029 .... **Net $.48**

ICA BONE FIBRE SCREW DRIVER



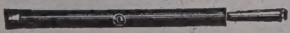
Double Edged—No Metal—Fully Insulated
Made of ¼" Bone Fibre Rod
No. 1039 .... **Net $.33**

ICA NEUTRALIZING TOOL
For Push Button Tuners



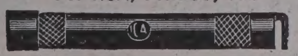
The Socket is $\frac{7}{32}$" in diameter, and contains a screw driver blade.
No. 1003 .... **Net $.45**

ICA SET TRIMMER NEUTRALIZING TOOLS FOR PHILCO, ZENITH, RCA, Etc.



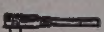
Fits the smallest size trimmer condensers. Trimmer end is $\frac{7}{32}$ diam. to fit ¼" hole.
No. 992— 6" long .... **Net $.75**
No. 933—10" long .... **Net .90**

ICA ALIGNMENT WRENCH
For RCA, PHILCO, etc.



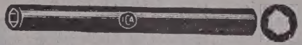
Used on all makes Air Trimmer. Made of ⅜" Fenoline Rod—8½" long—one end has hollow shaft hexagon wrench—other end has an especially shaped hook.
No. 1008 .... **Net $1.05**

ICA BALANCING TOOL



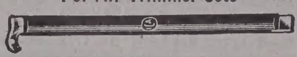
Fits into No. 1019 Neutralizing Tool.
No. 1026 .... **Net $.36**

INSULATED NEUTRALIZING WRENCHES



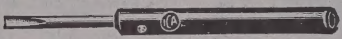
Hexed—Full Length
For Philco, Majestic and Other Receivers
⅜" Diameter
No. 985—6" long .... Net $.21
No. 986—8" long .... Net .24

ICA Alignment Tool for Philco Receivers
For Air Trimmer Sets



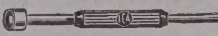
Has specially designed metal clip for air trimmers. Made of narrow fine rod, $\frac{7}{32}$" diam. by 6" long.
No. 1033 .... **Net $.39**

ICA Insulated Adjustable Neutralizing Tools



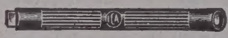
Absolutely no metal parts. Screw driver slides into inside of neutralizing wrench.
No. 990—Extending from 6" to 11" **Net $.60**
No. 991—Extending from 10" to 18" **Net .75**

ICA ALL PURPOSE ALIGNING TOOL



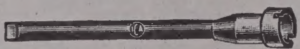
Handle is of ⅜" Fenoline. End has Socket Screw Driver for neutralizing all iron core tuning systems.
No. 1002 .... **Net $.45**

ICA ALIGNMENT TOOLS
For R.C.A. Receivers



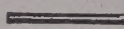
Narrow shaft Neutralizing Tools made of Bone Fibre—$\frac{7}{32}$" Wide. Has screw nib inserted in Brass Collar on end.
No. 1015 .... **Net $.57**

ICA NARROW SHAFT ALIGNMENT TOOL



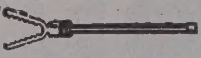
RCA—Zenith—etc. $\frac{7}{32}$" Bone Fibre Rod.
No. 987 .... **Net $.51**

ICA MAGIC TUNING ALIGNMENT TOOL



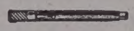
Consists of a Bakelite rod with a Brass cylinder at one end, and a special finely divided iron core at the other end.
No. 977 .... **Net $.81**

ICA FORK TYPE NEUTRALIZING WRENCH and SCREW DRIVER
For RCA and Other Sets



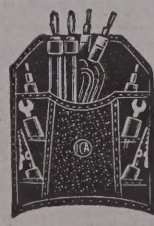
No. 1024 .... **Net $.36**

ICA Fencoline Neutralizing Screw Drivers



Made of Fenoline. Strong and sturdy, completely insulated for neutralizing and aligning coils, condensers, receivers, etc.
No. 1028 .... **Net $.30**

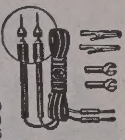
ICA ALL-PURPOSE TEST LEAD KIT COMPLETE FOR EVERY TESTING NEED



Equipped with one pair of test leads which have 60" of red and black kinkless live rubber wire. One end has insulated removable banana-type plugs.
Included in this test kit:
1 pr. test leads.
1 pr. insulated alligator clips—red and black.
1 pr. insulated spade plugs—red and black.
1 pr. insulated needle points—red and black.

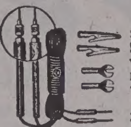
No. — **Net**
1005—Kit, complete **$2.10**

ICA PHONO, NEEDLE POINT TEST LEADS
With Slim Bone-Fibre Handles and Flexible Wire



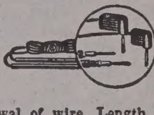
Flexible, rubber-covered, kinkless wire, 50" long. Fenoline handles 4" long.
No. — Net
382—With Phone Tips ...... $.60
381—With Spade Terminals. .60
379—With Alligator Clips ... .66

ICA DE LUXE EXTRA-FLEXIBLE TEST LEADS



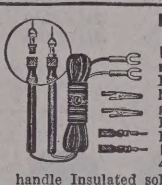
Slim Handles & Solderless Plugs
50" Extra-Flexible Test Leads with 4" Bone Fibre handles. New non-kinking, rubber insulated wire.
No. — Net
355—With Phone Tips..... $.60
356—With Spade Terminals. .60

ICA PENCIL TYPE TEST LEADS
Finger-Grip Molded Tips



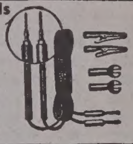
All connections are properly soldered providing low resistance connections vital in all precision tests. The Molded Finger Grip Tips are provided with rivets for easy renewal of wire. Length of test leads is 65". Handles are 5" long.
No. 373 .... **Net $1.05**

ICA HEAVY DUTY LABORATORY TEST LEADS



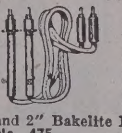
Long Slim Handles and Removable Phono Needle Chuck
Extra long slim red and black handles knurled at end for finger grip ease. Handles 6" long. 50" of heavy duty kinkless, flexible rubber wire.
No. — Net
400—With knurled grip handle Insulated solderless plug........ $.99
388—With alligator clip........ .90
391—With spade lugs........ .84
392—With non insulated phone tips........ .84

ICA Slim Handle Test Leads



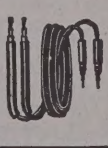
Made of sturdy Bone-Fibre Handles. 50" of Kinkless Live Rubber wire. Handles 6" Long—Overall Length 7". Prods have pointed large phone tip plugs.
No. — Net
313—Phone Tips on end.... $.75
314—Spade Lugs on end.... .75
315—Alligator Clips on end. .84

ICA HIGH VOLTAGE HEAVY DUTY TEST LEADS
10,000 VOLTS



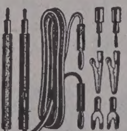
Made of large diameter Bakelite handles with guards to prevent fingers from slipping. Cable 18 gauge, 67/36 tinned copper, with heavy walled rubber covering. Prods 6" long with 50" red and black cable and 2" Bakelite Prods on either end.
No. 475 .... **Net $2.40 per pair**

ICA Unbreakable Test Prods
Long Metal Prod with Shockproof Rubber Handles



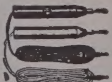
One end has standard needle point Tips. Other end has Insulated Solderless Plugs. Supplied with 50" Kinkless Rubber Wire.
No. 332—With Phone Tips Non Insulated ..**Net $.60**
No. 331—Insulated Solderless Plug Ends **Net .69**

ICA ALL PURPOSE TEST LEADS



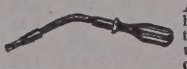
Made of sturdy Bone Fibre Tubing. Slim handles, 6" long. Over length 7¼". Rubber covered wire 50" long.
With Interchangeable Tips
No. — Net
312—Complete Kit **$1.50**

ICA SMALL HANDLE INSULOID TEST LEADS



Equipped with phone tip inserted in black and red insuloid handle on one end.
No. — **Net**
368—Phone Tips .... $.42
367—Spade Lugs .... .42

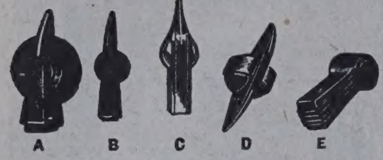
ICA FLEXIBLE SCREW DRIVER
For the Hard to Reach Spots



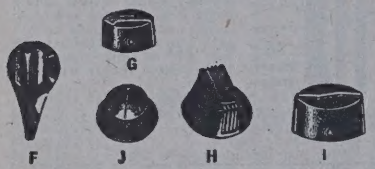
Allows access to screws in hard to reach and out of the way places. Can go under objects or around corners.
No. 935 .... **Net $1.35**

INSULINE
RADIO PRODUCTS

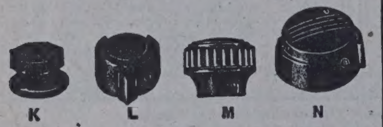
RADIO REPLACEMENT AND INSTRUMENT KNOBS



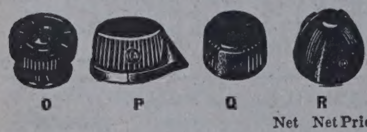
No.	Type	Color	Size	Net Each	Net Price Lots of 10
1125	A	Black	1¼"	$.12	$1.20
1127	A	Red	1¼"	.13	1.30
1126	B	Black	2¼"	.13	1.30
1128	B	Red	2¼"	.15	1.50
1155	C	Black	1¼"	.13	1.30
1156	C	Black	2¼"	.15	1.50
1161	C	Red	1¼"	.15	1.50
1162	C	Red	2¼"	.17	1.70
1143	D	Black	2⅛"	.15	1.50
1144	D	Walnut	2⅛"	.17	1.70
1153	E	Black	2⅛"	.21	2.10
1154	E	Walnut	2⅛"	.21	2.10



No.	Type	Color	Size	Net Each	Net Price Lots of 10
1270	F	Black	1⅝"	$.18	$1.80
1271	F	Black	2½"	.21	2.10
1138	G	Walnut	¾"x½"	.11	1.10
1139	G	Walnut	1"x½"	.13	1.30
1087	H	Walnut	1"	.12	1.20
1088	H	Black	1"	.12	1.20
1133	I	Walnut	¾"x½"	.11	1.10
1134	I	Walnut	1"x½"	.13	1.30

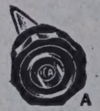


No.	Type	Color	Size	Net Each	Net Price Lots of 10
248	J	Black	1"	$.12	$1.20
249	J	Black	1½"	.13	1.30
1076	K	Walnut	1⅜"	.13	1.30
1080	K	Walnut	1"	.15	1.50
1049	L	Walnut	13/16"	.12	1.20
1050	L	Walnut	1"	.13	1.30
1174	M	Black	15/16"	.13	1.30
1089	N	Walnut	13/16"	.13	1.30
1090	N	Walnut	1"	.15	1.50



No.	Type	Color	Size	Net Each	Net Price Lots of 10
1072	O	Walnut	13/16"	$.13	$1.30
1073	O	Walnut	½"	.13	1.30
1081	P	Black	½"	.12	1.20
1082	P	Red	½"	.12	1.20
1083	P	Green	½"	.12	1.20
1084	P	Brown	½"	.12	1.20
1085	P	White	½"	.12	1.20
1116	Q	Walnut	⅞"	.13	1.30
1117	Q	Walnut	1"	.15	1.50
1135	R	Walnut	¾"	.10	1.00
1136	R	Walnut	⅞"	.13	1.30

ICA FINGER-GRIP POINTER KNOBS



Moulded of black bakelite with ¼" hole. Pointer type knobs have white indicators, flange type knobs have white indicating line.

With ¼" Brass Inserts

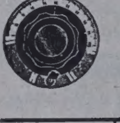
TYPE A—With Pointer

No. 1166—1⅛" Net $.39 **No. 1168—1⅝" Net $.51**
No. 1170—2⅜" Net $.60

No. 1165—1⅛" Net $.30 **No. 1167—1⅝" Net $.42**
No. 1169—2⅜" Net $.48

No. 1171—2-1/16" Net $.48 **No. 1172—3" Net $.54**

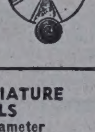
ICA CHROME SILVER DIALS
WITH FINGER GRIP FLANGE KNOBS



Beautiful dial plates accurately Etcho-engraved with black numerals and calibrations.

No.	Size	Degrees	Calibr.	Net
2170	2¾"	325	0-100	$1.26
2171	2¾"	180	0-100	1.26
2168	4"	325	0-100	1.65
2169	4"	180	0-100	1.65

ICA NEW VERNIER DIAL



Satin silver finish. Marker calibrated at 0-100 in 180 degrees. Complete with tuning knob for receivers or transmitters.

No. 2205—2¾" Diam.....Net $1.35
No. 2206—4" Diam.....Net 1.65

ICA MINIATURE DIALS
1⅝" Diameter

10
9
8
7
6
5
4
3
2
1
0

Beautiful Chrome Silver dials with black etched numerals. Finger grip black knob. Only 1⅝" Diameter. Fit ¼" Shafts.

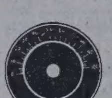
No.		Net
2164—0-10	180	$.51
2165—0-10	270	.51

ICA CHROME SILVER DIAL PLATES

Attractive grain satin finish. Black Etcho Engraving on Chrome Silver Background Plates.

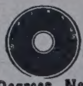
No.	Degrees	Dia. Dial	Calibr.	Net
2294	180	2"	0-100	$.48
2295	325	2"	0-100	.48
2296	180	3½"	0-100	.75
2297	180	3½"	0-100	.75
2298	180	4"	0-100	.84
2299	325	4"	0-100	.84

ICA BRASS BLACK SATIN FINISH DIAL PLATES
With Etched Silver Numerals



No.	Degrees	Dia. Dial	Calibr.	Net
2230	325	3⅛"	0-100	$.36
2231	180	3½"	100-0	.36
2232	180	3½"	0-100	.36
2233	180	2"	100-0	.27
2234	325	2"	0-100	.27
2235	325	2"	100-0	.27
2236	180	2"	0-100	.27

ICA INDICATING PLATES



Made of heavy brass with black satin background. Silvered "Etcho Gravured" numerals and lettering. 13/32" center mounting hole. 1½" Diameter.

No.	Degrees	Net
2259—Marked 1 to 6	180	$.21
2450—Marked 1 to 5 (Volume)	325	.21
2451—Marked 1 to 5 (Tone)	325	.21
2452—Marked 1 to 10	325	.21
2453—Marked Off-On—with arrow	325	.21

ICA ETCHED DIAL PLATES
RECTANGULAR TYPES

0
1
2
3
4
5
6
7
8
9
10
RECORD

Made of brass—finished in black with etched silver markings. Calibrated for 300 degree rotation. Marked 1 to 10. Will fit on ⅜" bushing. Size 2¼" x 1-11/16".

No. Marking	Net
2244—Record	$.24
2245—Microphone	.24
2246—Gain	.24
2247—Tone	.24
2248—Plain (Calibrated but not worded)	.24

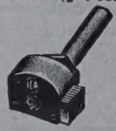
ICA TOGGLE SWITCHES

Furnished in Nickel or Antique Bronze. Capacity 1 Amp. 250 Volts. 3 Amps. 125 Volts. Mfd. by H & H for ICA.

No.	Shank Length	Description	Finish	Net
1230	⅜"	S.P.S.T.	Nickel	$.33
1232	⅜"	S.P.S.T.	Bronze	.33
1233	¾"	S.P.S.T.	Bronze	.36
1235	¾"	S.P.S.T.	Nickel	.36
1236	⅜"	S.P.D.T.	Nickel	.45
1237	¾"	S.P.D.T.	Nickel	.48
1238	⅜"	D.P.S.T.	Nickel	.60
1365	⅜"	D.P.D.T.	Nickel	.75
1366	¾"	D.P.D.T.	Nickel	.78

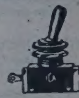
ICA ROTARY SWITCHES

Rated 3 Amps. at 125 Volts. Overall Length of shafts 1½". Made by H & H for ICA. Underwriters Approved.



No.	Threaded Shank	Description	Net
1228	⅜"	S.P.S.T.	$.36
1229	1"	S.P.S.T.	.42
1286	⅜"	S.P.D.T.	.48
1287	1"	S.P.D.T.	.60
1288	⅜"	D.P.D.T.	.84
1289	1"	D.P.D.T.	.93

BAT-HANDLE TOGGLE SWITCH



Made by H & H. Identical to toggle switches listed above, except that handle is longer and shaped like a baseball bat.

Less on and off plate.

Nickel plated only—7/16" shank.
Packed 5 in a standard carton.

No. Description	Net
1296—S.P.S.T.	$.33
1297—S.P.D.T.	.45
1298—D.P.S.T.	.60
1299—D.P.D.T.	.75

"ON-OFF" PLATE
No. 1300

For Toggle Switch ....Net $.04

ICA EXTRA HEAVY DUTY SWITCH
D.P.D.T. With Neutral Center

An extra large heavy duty, Double Pole, Double Throw-switch with neutral position in the center for use in heavy current circuits such as transmitters, power amplifiers, motors, etc. Contacts have fast 'break' which reduces the tendency to arc. Rated at 10 amperes, 125 Volts. Size of Switch case, 2" long, 1" high, 1¼" wide. Mounting sleeve diameter ⅝".

No. 1283 ....Net $3.30

ICA HI-POWER SWITCH
PUSH BUTTON TYPE

When used in racks it is designed to break primary circuit when rack door is open. D.P.S.T. Made by H & H for ICA. Capacity 12 Amp, 125 Volt. Overall size 1¾" long, ¾" wide, ¾" high; 7/16" shank

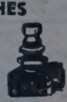
No. 1280 ....Net $1.65

ICA POWER SWITCH
(Toggle Type)

Characteristics and dimensions same as No. 1280 described above.

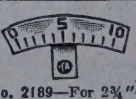
No. 1281 ....Net $1.02

ICA PUSH BUTTON SWITCHES



Single pole 2 circuit momentary switch. One circuit is "ON" and the other normally "OFF". 1 Ampere, 125 Volt, made by H & H for I.C.A. Shank ⅝" long.

No. 1282......................Net $.66



ICA VERNIER DIAL MARKER

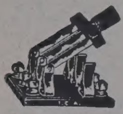
Complete with self-tapping screws for mounting on metal, wood, bakelite or brass panels.

No. 2189—For 2¾"—325° Dials..........Net $.30
No. 2190—For 2¾"—180° Dials..........Net .30
No. 2191—For 4"—325° Dials..........Net .30
No. 2192—For 4"—180° Dials..........Net .30

ICA INSULINE ICA
RADIO PRODUCTS

ICA BAKELITE KNIFE SWITCHES

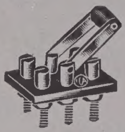
Hardware of brass, heavily nickel-plated. Mounted on highly polished bases of Black BAKELITE. Firm contact assured.



No.	Description	Net
1216	S.P.S.T.	$.51
1217	S.P.D.T.	.60
1218	D.P.S.T.	.69
1219	D.P.D.T.	.81
1360	3.P.S.T.	1.11
1220	3.P.S.T.	1.20
1221	4.P.S.T.	1.50
1222	4.P.D.T.	1.80
1364	5.P.D.T.	2.10

MINIATURE BAKELITE SWITCHES

Can be mounted on panel or base. Black Bakelite base—highly nickel-plated brass parts with insulated handles.

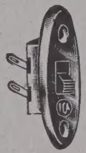


No.		Base Size	Net
2223	S.P.S.T.	1¼"x½"	$.30
2224	S.P.D.T.	1¼"x½"	.36
2225	D.P.D.T.	1¼"x1"	.45
2226	D.P.S.T.	1¼"x1"	.42

ICA SLIDER SWITCHES

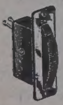
Small — Compact

S.P.S.T. Switch furnished with chrome mounting plate. Switch dimensions 1½" x ½" x ¼".



No.		Net
1255	S.P.S.T.	$.30
1259	S.P.D.T.	.33
1260	D.P.D.T.	.39

ICA SLIDING LEVER SWITCHES

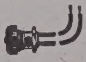


The Modern slider switch for all electrical appliances, panels, analyzers, etc. Replacement for analyzers, tube checkers. Complete with plate. Rated 3 amps. at 125 volts.

No.		Net
1265	S.P.S.T.	$.90
1266	D.P.D.T.	1.17

ICA ROTARY CANOPY SWITCH

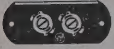
Single pole switch ¼" shank with brown bakelite knob and 6" leads—1 ampere—250 volts.



No. 1257....................Net $.30

10 in Standard Package

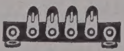
ICA TERMINAL STRIPS



Made of 3/32" heavy black Bakelite engraved in white. Terminals are nickel-plated phosphor bronze with non-removable collars.

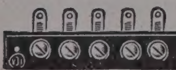
No.	Terminals	Marking	Size	Net
2420	2	Plain	⅞ x 2¼	$.15
2419	2	A & G		.18
2418	2	Output		.18
2417	2	Input		.18
2414	3	Plain	⅞ x 2¾	.21
2415	3	1,2,3		.24
2413	4	Plain	⅞ x 3⅜	.30
2408	4	1,2,3,4		.33
2405	5	Plain	⅞ x 4	.33
2406	5	1,2,3,4,5		.33
2404	6	Plain	⅞ x 4⅝	.36
2402	6	1,2,3,4,5,6		.39
2412	7	Plain	⅞ x 5¼	.42
2411	7	1,2,3,4,5,6,7		.51
2410	8	Plain	⅞ x 5¾	.54
2409	8	1,2,3,4,5,6,7,8		.60
2424	9	Plain	⅞ x 6⅜	.60
2423	9	1,2,3,4,5,6,7,8,9		.69
2422	10	Plain	⅞ x 7	.69
2421	10	1,2,3,4,5,6,7,8,9,10		.75

ICA BAKELITE TERMINAL MOUNTING STRIPS



For fastening Resistors, Condensers, etc.

No.		Net—In Lots of 10
2434—1	Terminal	$0.18
2435—2	Terminals	.27
2436—3	Terminals	.42
2437—4	Terminals	$0.54
2438—5	Terminals	.63
2439—6	Terminals	.78



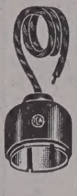
ICA BAKELITE TERMINAL STRIPS

Brown Bakelite, 1/16" Thick.

No.		Net, Each
2520—2	Terminals	$0.12
2521—3	Terminals	.15
2522—.	Terminals	.18
2523—5	Terminals	$0.21
2524—6	Terminals	.21

ICA Rubber Insulated Grid Caps

For Receiving Tubes



For 866 Type Tubes

No.		Net
870	With leads	$.18
871	Without leads	.15

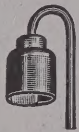
For Receiving Tubes

No.		Net
872	With 12" lead	.12
873	Without lead	.04

For New Metal Tubes

No.		Net
874	With 12" lead	.12
875	Without lead	.04

ICA Fenoline Insulated Grid Caps



Supplied with 12" wire.

For Standard Glass Receiving Tubes

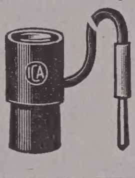
No.		Net
680	Red	$.15
681	Black	.15

For 866 Transmitting Tubes

No. 682—Red ....Net $.30
No. 683—Black ....Net .30

ICA Insulated Dual Grid Caps

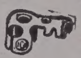
For Metal and Glass Tubes



Equipped with 12" lead

No. 877—Black Net $.24
No. 878—Red Net .24

ICA GRID CAPS

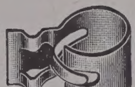


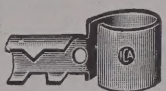
No. 1550
Standard Glass Tubes
Net $1.50 per C

No. 1551
Metal Tubes
Net $1.50 per C

ICA GRID CAPS

No. 1553
Glass Tubes
Net $1.50 per C





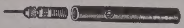
ICA GRID CAPS

No. 1554
Glass Tubes
Net
$1.50 per C

SPECIAL SIZE TERMINAL STRIPS, TEST PRODS AND PLASTIC INSULATED PARTS MADE TO MANUFACTURERS' SPECIFICATIONS. SEND US YOUR PRINTS FOR QUOTATIONS.

ICA Fenoline Phono. Needle Point Test Prods

With Removable Chuck



5 Inch Test Prod

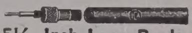
No. 389R—Red ....Net $.30
No. 389B—Black ....Net .30

7 Inch Test Prod

No. 334R—Red ....Net .36
No. 334B—Black ....Net .36

ICA Solderless Plug Test Prods

With Solderless Plug Chuck



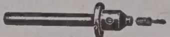
5¼ Inch Long Prods

No. 390R—Red ....Net $.30
No. 390B—Black ....Net .30

7¼ Inch Long Prods

No. 335R—Red ....Net .36
No. 335B—Black ....Net .36

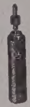
High Voltage ICA Heavy Duty Bakelite Test Prod Handles



No. 480—Black Bakelite Net $.69

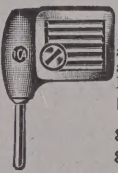
High Voltage Heavy Duty Bakelite Test Prods

Measures 2" overall.



No.		Net
485	Black Bakelite	$.33

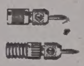
ICA Grip-Rite Molded Phone Tip Plug



Replacement for ICA and Weston—as well as other make Test Leads.

No.		Net
868	Red	$.30
869	Black	.30

ICA PHONO NEEDLE CHUCKS

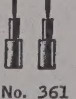


Push on type can be forced into handles — Threaded type can be screwed into handles—Machined of brass, nickel plated with needle point.

No. 508—Push on Type, Overall size 1" ....Net $.09

No. 509—Threaded type, Overall size 1⅛" ....Net $.11

HEAVY DUTY PHONE TIP

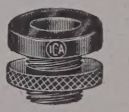


Made of high quality heavy brass with nickel plated finish. Used on test leads—prods, etc. (Overall length is 1½".)

No. 361 ....Net $7.80 per C

25 in Standard Package

ICA Insulated Bushings



No. 670—Black ⅛" Hole ⅜" Diam. ⅜" Long..Net $.12

No. 671—Red ⅛" Hole ⅜" Diam. ⅜" Long..Net .12

No. 672—Black ¼" Hole ½" Diam. 7/16" Long..Net .15

No. 673—Red ¼" Hole ½" Diam. 7/16" Long..Net .15

ICA INSULINE ICA
RADIO PRODUCTS

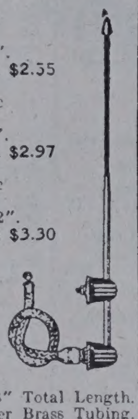
I. C. A. "DE LUXE" AUTO RADIO ANTENNAS

SIDE COWL AERIALS

NOISELESS! **RATTLE PROOF!**

Lifetime Guarantee Against Rusting
Admiralty Brass and Stainless Steel Antennae

- Static Discharge Ball supplied on all aerials
- All Antennae supplied with 36" Fool-proof Spring Tensioned Lo-Loss Cables protected by Heavy Shielded Loom to prevent noise pick-up



The "GOVERNOR"
Two Section Telescopic
49" Total Length
Extends from 23" to 49".
No. 4551 .... **Net $2.55**

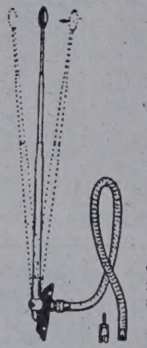
The "CHANCELLOR"
Three Section Telescopic
65" Total Length
Extends from 20" to 65".
No. 4566 .... **Net $2.97**

The "COMMODORE"
Three Section Telescopic
72" Total Length
Extends from 23½" to 72".
No. 4555 .... **Net $3.30**

The "PRESIDENT"
Three Section Telescopic
96" Total Length
Extends from 31½" to 96"
No. 4553 .... **Net $3.57**

The "COUNSELLOR"
FOR LONG DISTANCE
RECEPTION AND
POLICE WORK
Four Section Telescopic—108" Total Length.
Made of Extra Large Diameter Brass Tubing.
No. 4558A .... **Net $4.47**

ICA "ROCKER" AERIAL



A Variable Angle Antenna to Fit the Contours of All Car Bodies

- The adjustable mounting mechanism is concealed so as to make it both tamper-proof and weather-proof.
- Beautifully fashioned — Rugged construction.
- Easy to install requiring the drilling of only 2 small holes adjusting the antenna to the desired angle and tightening.

Completely assembled, ready for installation with 36" shielded Lo-Loss Cable and Universal plug-in attachment.

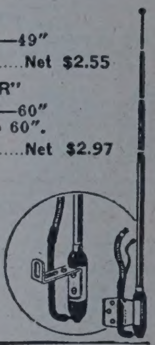
"ROCKER" ANTENNA"
2 Section Telescopic—49"
Extends from 23" to 49"
No. 4540 .... **Net $3.00**
10 to a Standard Carton—Weight 12 lbs.

3 Section Telescopic—72"
Extends from 23½" to 72"
No. 4541 .... **Net $3.45**
10 to a Standard Carton—Weight 16 lbs.

UNI-MOUNT UNDERHOOD ANTENNA

Only One Aerial for All Type Mountings
Fits All Model Cars Including Latest 1940 Styles

- Dual Brackets designed so that they can be interchanged in a minute for both Underhood and Alligator types
- Eliminates drilling of holes on body of car
- Made of Admiralty Brass, Triple-Chrome Plated. Guaranteed Rust-proof
- Both Underhood and Alligator Mounting Brackets are included as standard equipment with every aerial.
- All Antennas are supplied with Shielded Lo-Loss Lead-in Cable



The "WASP"
2 Section Telescopic—49"
No. 4800 .... **Net $2.55**

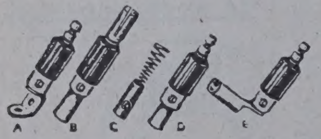
The "TRAVELLER"
3 Section Telescopic—60"
Extends from 20" to 60".
No. 4801 .... **Net $2.97**

The "CLIPPER"
3 Section Telescopic–72"
Extends from
23½" to 72".
No. 4802 .... **Net $3.30**

The "NEW YORKER"
3 Section Telescopic–96"
Extends from
31½" to 96".
No. 4803 **Net $3.57**

ICA SUPER-TEST AUTO RADIO IGNITION SUPPRESSORS

Made of Moulded Bakelite—All Metal Parts Made of Rugged Machined Brass



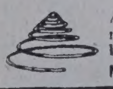
No.		Net
Type E—349B	Spark Plug Slip-on Suppressor Fit 1939-40 cars	$.18
Type E—349F	Slip-on Spark Plug Suppressors for New Model Ford Cars	.18
Type D—350B	Spark Plug Suppressors with Dual Threaded Inserts	.18
Type D—351B	Spark Plug Suppressors for Ford cars up to 1939	.18
Type A—377	Bracket type Suppressor	.18
Type B—352B	Distributor Suppressor for all cars	.21
Type C—4461	Ford Early Models	.21
Type C—4463	Ford Late Models	.21

ICA FRONT WHEEL NOISE SUPPRESSORS

Simple — effective. Equipped with plate and screw for easy attachment to wheel caps.

No. 4475—Per pair .... **Net $.24**

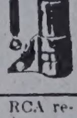
ICA WHEEL HUB STATIC ELIMINATOR



Used under hub of front wheel. An essential on all cars to eliminate front wheel static. Less Back Plate and screw.

No. 4476—Per pair .... **Net $.18**

ICA FORD V8 CONDENSERS
FOR 1939-1940 MODELS

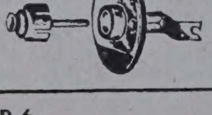


Equipped with Special Bracket. Capacity ½ mfd.

No. 1246 .... **Net $.45**

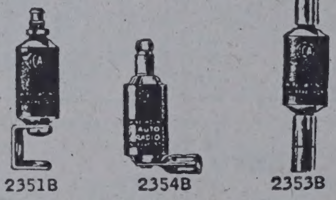
ICA PLUG AND JACK

Used on RCA recording units, receivers and auto sets.



No.	Net
2383—Pin Plug	$.09
2385—Socket & Shield	.15

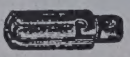
ICA WIRE WOUND SUPPRESSORS
LOW RESISTANCE 30 OHMS. D. C.



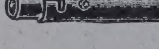
These suppressors have an extremely low D.C. resistance and thus definitely do not affect the intensity of the ignition spark or cut down the speed of the car.

No.	Net
2351B—Spark Plug Suppressor	$.39
2353B—Distributor Suppressor	.39
2354B—1938-1939 Slip-On Suppressor; Will Also Fit Older Type Cars	.39

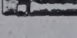
ICA AUTO ANTENNA CONNECTORS AND ADAPTERS



No. 2347—Antenna Connector
Net .... **$.06 ea.**

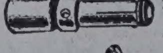


No. 2348
Standard Fuse Holder
Net .... **$.09 ea.**

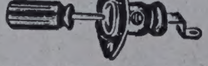


No. 2349 — Jumbo Fuse Holder (2½ long x ½ wide) .... **Net $.18 ea.**

No. 2395 — Lead-in Adapters — converts Motorola lead to Delco Fittings.
Net .... **$.18 ea.**



No. 2372—Lead-in Adapter — converts standard leads to Motorola Fittings.
Net .... **$.18 ea.**



No. 2375
Motorola Pin Plug
Net .... **$.7½ ea.**

ICA
AUTO BY-PASS CONDENSER

For by-passing ammeter, dome light or generator. Capacity ½ mfd.

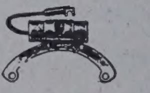
No. 1244 .... **Net $.30**

ICA
GENERATOR SILENCER

Heavy duty generator condenser eliminates generator, ammeter, distributor noises. Capacity 1 mfd.

No. 1243 .... **Net $.45**

ICA
FORD V8
NOISE SILENCER



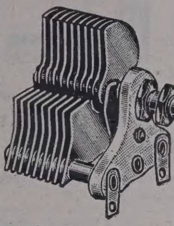
No. 1245
Net $.48

WE ARE MANUFACTURERS OF SPECIAL ANTENNAS USED BY THE U. S. ARMY SIGNAL CORPS, U. S. NAVY AND COAST GUARD. WE ALSO MANUFACTURE SPECIAL ANTENNAS FOR POLICE MOTORCYCLES AND POLICE CARS. WE ARE IN A POSITION TO MAKE ANY TYPE OF ANTENNAS, ANY SIZE, TO MANUFACTURERS' SPECIFICATIONS. LET US QUOTE ON YOUR NEEDS.

ALL PRICES SHOWN ARE DEALER'S NET COST

ICA INSULINE ICA
RADIO PRODUCTS

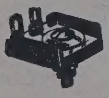
ICA MIDGET CONDENSERS
LO-LOSS CERAMIC INSULATION



Highly efficient, compact and rugged condensers for short wave receivers and transmitters. Employ non-corrosive plates, wiping phosphor bronze rotor contacts. Single Hole Mounting — Shaft is of Brass and ¼" in Diameter; plated to resist corrosion — Complete with mounting nuts.

No.	Plates	Max. Cap.	Min. Cap.	Net
6302	3	15 mmfd.	3 mmfd.	$.72
6304	4	25 mmfd.	35 mmfd.	.78
6305	7	50 mmfd.	4 mmfd.	.81
6306	11	80 mmfd.	6 mmfd.	.90
6303	14	100 mmfd.	6 mmfd.	.96
6301	19	140 mmfd.	7 mmfd.	1.05
		Double-Spaced Condenser		
6300	10	35 mmfd.	6.5	1.05

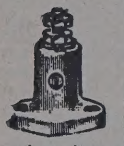
ICA CERAMIC PADDING CONDENSERS

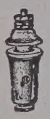


Compact, yet rugged Padding Condensers. Designed for aligning tandem condensers, short wave band switch coils, antenna trimmers, etc. Uses high grade Mica and Phosphor Bronze Springs contacts.

No.	Min. Cap.	Max. Cap.	Net
611	4.0 mmfd.	50 mmfd.	$.30
612	12.0 mmfd.	120 mmfd.	.30
613	130.0 mmfd.	450 mmfd.	.33
614	160.0 mmfd.	500 mmfd.	.33

INSULEX INSULATORS





Made of WHITE Glazed Insulex. This new line of insulators meets the demand for a perfect, non-porous low loss product. Used by broadcasters, amateurs, experimenters and set-builders. Available in various sizes and types. All feed-thru have cork washers.

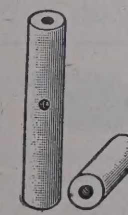
STAND OFF INSULATORS

No.	Description	Height	Base Size	Net
2300	Little Pete	1"	½" x ⅞"	$.07
2301	Junior Pete	1⅜"	¾" x ⅛"	.09
2302	Big Pete	1¾"	1" x 1½"	.11
2303	Beehive	2⅜"	2" Diam.	.15
2304	Jack Type	1¼"	1" x 1½"	.15

FEED-THRU INSULATORS

No.	Description	Ht.	Base Diam.	Mtg. Hole Size	Net
2305	Sub-Panel	¾"	⅝"	$\frac{5}{16}$"	$.12
2306	Sub-Panel	1"	¾"	$\frac{7}{16}$"	.15
2307	Sub-Panel	1¼"	⅞"	$\frac{7}{16}$"	.17
2334	Large Sub-Panel	2⅞"	1½"	$\frac{11}{16}$"	.42
2320	Jack Type	1"	¾"	$\frac{7}{16}$"	.21
2321	Jack Type	1⅜"	⅞"	$\frac{7}{16}$"	.24

CERAMIC RODS

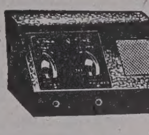


Made of Alsimag. Suitable for mounting insulators, condensers, coils, etc.

Available in two lengths.

No.	Lgth.	Dia.	Tap.	Net
2310	1¼"	½"	6-32	$.17
2311	3¼"	½"	6-32	.24

ICA DELUXE SIGNA-TONE
AUDIO OSCILLATOR — CODE PRACTICE SET — KEYING MONITOR



No. 4300

No. 4301

The ICA Signatone is a perfected Audio Oscillator, having 3 different output frequencies and a continuously variable volume control. The Audio notes are similar to those of high quality commercial CW stations.

1. CODE PRACTICE SET—A number of phones and keys may be connected for intercommunication or for classroom or radio club instruction in code.
2. KEYING MONITOR—An invaluable aid in improving any ham's "fist". Will follow the "bug" at all speeds. No well-equipped station should be without this keying monitor.
3. MODULATION SIGNAL—The steady note of the Signatone is ideal for adjusting both the Modulator and modulated stages of your transmitter for a maximum modulation percentage of not over 100.
4. SIGNAL TRACER—By feeding the output of the Signatone into each stage of your modulator and listening to the output of that stage, defects and "bugs" can easily be located.

Complete with tube and self-contained speaker, for 110 V AC-DC.

No. 4300—*Dealer Net Cost $12.00
No. 4301—Classroom Model (No Speaker)—Dealer Net Cost 9.00

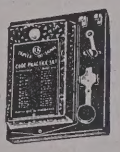
LINGUAPHONE MORSE CODE RECORDS

INTERNATIONAL MORSE CODE
MORSE CODE

Learn the International Morse Code Quickly, Easily — Uses EYE-EAR Method. The Complete Linguaphone Code Equipment consists of 5 Double-faced, electrically transcribed records in durable album. Contents: 3 Tables, 10 Lessons, 14 Exercises, 4 Appendices.

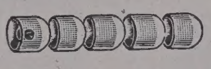
No. 1800—Complete .... Net $9.00

ICA "TRIPLEX"
Radio & Telegraph Code Practice Set
Blinker Light
Radio Signal—Telegraph



No.		Net
70	—Single Unit (less batteries)	$1.80
71	—Double Unit (50 ft. wire)	3.72

CERAMIC BEAD INSULATORS

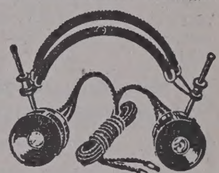


$\frac{5}{16}$" Diam.

Used for construction of short concentric link lines.

No. 2315—(100 beads) .... Net $.60

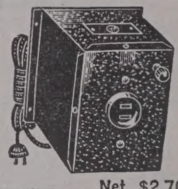
ICA
EAR PHONES
Complete With Head Bands



Made of molded Bakelite and lightweight nickel-plated metal, 2000 ohms.

No. 23—Double Head Phone .... Net $2.85
No. 22—Single Head Phone with Band .... Net $1.50

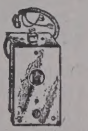
ICA
FILTERVOLT



Eliminates extremely noisy radio reception due to interruptions in power line caused by electrical appliances, lights, etc.

No. 394 .... Net $2.70

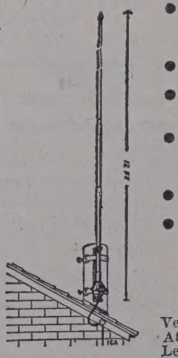
ICA RECORD-PLAYER SWITCH
Replacement for RCA Switch 9824A



Recommended for quickly connecting Record Players, F.M. attachments, Television attachments, Microphones and similar devices into the audio amplifier of existing radio receivers.

No. 1740 .... Net $.99

HOME ANTENNAS
12 FEET—4 SECTIONS
Made of Admiralty Brass—Guaranteed Rust Proof



- The Latest Type Home Antenna suggested by leading Radio Set Manufacturers for best results.
- Eliminates unsightly and dangerous wires.
- Clear, noise-free reception with no power line interference.
- Very sturdy construction—made of Admiralty Brass with Beautiful Nickel-Plated Finish.
- Guaranteed Rust-proof for the Life of Antenna.
- Universal Bracket allows permanent and convenient installation on soil pipe, window pipe, chimney, roof, gables, cornices, wall copings, etc.

Individually boxed.

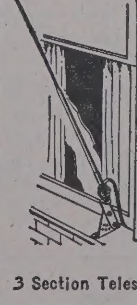
Vertical Mast Only—With Attaching Clamps—Less Lead-in Wire.

No. 4515 .... Net $3.75
10 to a Standard Carton—Weight 25 lbs.

COMPLETE VERTICAL MAST ANTENNA
Vertical Mast with all accessories for Universal Mounting—including lead-in Wire, Ground Wire, Brackets, Lightning Arrestor, Screws, Insulators, etc.

No. 4516 .... Net $4.17
10 to a Standard Carton—Weight 33 lbs.

DE LUXE WINDOW ANTENNAS
8 FEET—12 FEET
Made of Admiralty Brass—
with Beautiful Nickel-Plated Finish



- For Homes, Apartments, Hotels, Office Buildings, and places where it is inconvenient to install outdoor aerials or to improve reception on indoor installations.
- Quickly and easily installed.
- Adjustable Bracket at base, permits the antenna to be focused in any position for best reception.
- Furnished completely assembled with mounting flange, insulator and lead-in strip.

Individually boxed.

3 Section Telescopic Antenna Opens to 96" Total Length

No. 4527B .... Net $3.60
10 to a Standard Carton—Weight 14 lbs.

4 Section Extra Long Window Antenna
12 Feet Long
Ideal for DX Reception and Rural sections where extra length is needed for best results.

No. 4513 .... Net $4.05
10 to a Standard Carton—Weight 33 lbs.

ICA INSULINE ICA
RADIO PRODUCTS

INDIVIDUAL RADIO HARDWARE ITEMS

The following sizes and types of hardware can be purchased in individual jars, either for refilling the assortment racks or as a refill for your own hardware stock. Each jar contains the amount mentioned.

Individual types and sizes. Packed in handsome glass display jars.

NET 39c PER JAR

Round Head Machine Screws

No.	Quantity	Size
5000	100	4—36 x ¼″ long
5001	100	4—36 x ½″ long
5002	75	4—36 x ¾″ long
5007	90	6—32 x ¼″ long
5008	80	6—32 x ½″ long
5009	70	6—32 x ¾″ long
5010	50	6—32 x 1″ long
5014	75	8—32 x ⅜″ long
5015	70	8—32 x ½″ long
5016	65	8—32 x ¾″ long
5017	40	8—32 x 1″ long
5022	60	10—32 x ½″ long
5023	50	10—32 x ¾″ long
5024	35	10—32 x 1″ long

Parker-Kalon Self-Tapping Screws

No Tapping Necessary—No Nut Required

5051	50	No. 4 x ½″
5052	50	No. 6 x ¼″
5053	45	No. 6 x ⅜″
5054	40	No. 7 x ½″
5055	35	No. 10 x ¾″
5056	45	No. 10 x ⅜″

Nickel Plated Hexagon Nuts

5070	100	4—36 x ¼″ Diam.
5071	90	6—32 x ¼″ Diam.
5072	80	8—32 x 5/16″ Diam.
5073	50	10—32 x ⅜″ Diam.
5074	80	6—32 x 5/16″ Diam.

Kant-Link Lock Washers

5080	125	For 6-32 Screws
5081	125	For 8-32 Screws
5082	100	For 10-32 Screws

Shakeproof Lock Washers

5085	100	For 6-32 Screws
5086	90	For 8-32 Screws
5087	80	For 10-32 Screws

Plain Steel Plated Washers

5090	100	For 6-32 Screws
5091	100	For 8-32 Screws
5092	100	For 10-32 Screws

Escutcheon Plate Screws

5182	100	No. 1—¼″ length

Fahnestock Clips—Spring Brass N.P.

5190	40	¾″ long
5191	40	1″ long

Rack Screws and Washers

5120	20 each (10/32 x ⅝) (10/32)	Oval Bend Screw Cup Washer

Flexible Rubber Grommets

No.	Quantity	Size Diam.	Size Thick.	Size Hole
5120	15	½″	9/32″	7/64″
5121	12	21/32″	¼″	⅜″
5122	15	½″	¼″	¼″
5124	10	13/16″	⅜″	⅜″
5125	10	¾″	⅜″	⅜″

Plain Fibre Washers

		Diam.	Hole	Thick.
5100	125	5/16″	⅛″	1/32″
5101	100	⅜″	3/16″	1/16″
5102	90	½″	⅛″	3/64″

Shoulder Fibre Washers

		Over-all Diam.	Shoulder Diam.	Height
5100	100	⅜″	¼″	5/64″
5111	90	7/16″	13/64″	7/64″
5112	75	½″	⅜″	3/64″
5113	50	½″	⅜″	3/32″

Brass Tinned Terminal Lugs

No.	Quantity	Type	Length	Size of Hole
5135	125	Flat	¼″	No. 6
5136	100	Flat	⅞″	No. 10
5141	75	Flat	1″	No. 8 or 5/16″
5137	75	Link	1″	No. 8
5138	100	Spade	¾″	9/64 Slot
5139	75	Cord	⅞″	¼″
5140	50	H.D. Battery Cable	1¼″	¼″

Nickel Plated Rivets

		Length	Diameter
5160	100	3/16″	⅛″
5161	80	¼″	⅛″
5162	70	5/16″	⅛″

Nickel Plated Eyelets

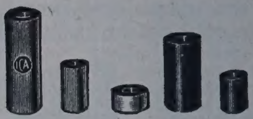
5170	100	⅛″	3/16″
5171	90	5/16″	⅛″
5172	80	5/16″	7/64″
5173	75	5/16″	11/64″

Cable Clamps

5200	35	¾″ long x 5/16″ Bend
5201	30	1″ long x ½″ Bend

Angles and Brackets

5207	25	7/16″ x 7/16″ x 5/16″
5205	16	⅝″ x 1″ x ⅜″ wide
5206	15	½″ x 1⅜″ x ⅜″ wide



ICA INSULATED AND BRASS SPACERS AND BUSHINGS

Used for raising sub panels, chassis, condensers, etc. For manufacturers, experimenters and laboratory use.

Made of High Quality Brass

No.	Diameter	Length	Net per C
5760	¼″	¼″	$2.40
5761	¼″	⅜″	3.00
5762	¼″	½″	3.30
5763	¼″	¾″	3.60
5764	⅜″	¼″	3.30
5765	⅜″	½″	3.90
5766	⅜″	¾″	4.20

25 in Standard Package

Made of Fenoline Insulation

No.	Diameter	Length	Net per C
5775	¼″	¼″	$2.40
5776	¼″	⅜″	3.00
5777	¼″	½″	3.30
5778	¼″	¾″	3.60
5779	⅜″	¼″	3.30
5780	⅜″	½″	3.90
5781	⅜″	¾″	4.20

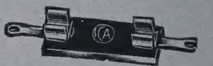
25 in Standard Package

Threaded Brass Bushings—¼" Diameter

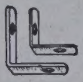
No.	Size	Length	Net per C
5785	for 6/32 screw	¼″	$3.30
5786	"	⅜″	4.20
5787	"	½″	4.80
5788	"	¾″	5.40
5790	for 8/32 screw	¼″	3.30
5791	"	⅜″	4.20
5792	"	½″	4.80

25 in Standard Package

ICA FUSE MOUNTINGS



No. 2340—Flush Mounting ....Net $.15
No. 2341—Panel Type ....Net .15



ICA ANGLES AND BRACKETS

An assortment of Angles and Brackets commonly used in the radio and electrical fields.

No.	Size	Width	Description	Net per C
5702	7/16 x 7/16″	⅜″	Angle Bracket	$1.50
5703	⅝ x 1″	⅜″	Angle Bracket	1.80
5704	½ x 1⅜″	⅜″	Angle Bracket	3.60
5705	½ x ½″	½″	One hole tapped for 8/32—other plain	3.60

100 in Standard Package

ICA MASTER SCREW AND NUT ASSORTMENT

Contains a substantial quantity of all the popular sizes machine screws, wood screws, Parker-Kalon self-tapping screws and nuts to match.

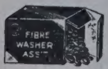
No. 5252 ....**Net $3.30**

ICA ALL-PURPOSE RADIO HARDWARE AND ESSENTIAL EQUIPMENT

Packed in a handy indestructible metal utility case.

This De Luxe assortment includes such items as knob set screws — escutcheon screws — Parker-Kalon self-tapping screws — rubber grommets — screws — nuts, etc.

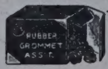
No. 5251 ....**Net $2.85**



ICA FIBRE WASHER ASSORTMENT

A representative assortment of fibre washers both plain and shoulder, to fit all popular size screws and bolts.

No. 5805 ....**Net $.51**
Contains 100 assorted washers



ICA RUBBER GROMMET ASSORTMENT

Assortment contains popular sizes used in Radio and Electrical Work.

No. 5810 ....**Net $.51**
Contains 28 Rubber Grommets
No. 5811 ....**Net $.90**
Contains 60 Rubber Grommets

ANGLE
BRACKET
ASS'T

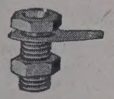
ICA ANGLE AND BRACKET ASSORTMENT

A complete assortment of 30 popular angles and brackets, nickel plated finish.

No. 5800 ....**Net $.51**

BANANA PLUGS & JACKS

Intended for all purposes where it is desirable to make a coil, condenser, etc., easily removable. Plugs have heavy spring contacts which fit snugly into the jacks. No. PL-470 plug has $\frac{7}{16}$" shank, threaded 6-32, and No. PL-469 is tapped to accommodate a 6-32 screw. No. PJ-949 Jack fits into ¼" hole. All types packed 25 to a box.



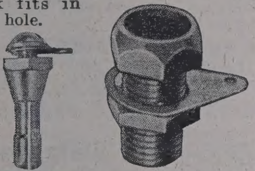
Cat. No.	Your Cost
PL-470	$0.09
PL-469	.09
PJ-949	.09

GIANT PLUGS AND JACKS

For applications requiring a heavy duty plug and jack having a large contact area. Same jacks and plugs used with BUD Kilowatt coils.

No. PL-962 plug is made from one-piece spring brass with bright nickel plated finish. Spring action assures firm contact with the jack. Overall length is 1$\frac{3}{16}$".

No. PJ-963 jack also made from brass, bright nickel plated. Each jack comes complete with nut and lug. Overall length is ⅞" and jack fits in ⅜" hole.

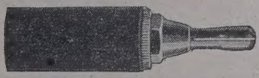


Cat. No.	Your Cost
PL-962	$0.21
PJ-963	.18

INSULATED GIANT PLUG

A substantial, insulated plug for terminating heavy single wire leads such as found on diathermy pads. Consists of a No. PL-962 Giant Plug attached to a removable bakelite handle and large soldering lug terminal. Overall length 2⅞". Plugs into No. PJ-963 jack.

Cat. No. PL-977....Your Cost $0.45



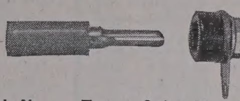
PIN-PLUG AND JACK

This is a pin plug and jack combination that will fit into a multitude of applications: receivers, auto radio, recording and reproducing equipment, experimental units, etc.

Cat. No.	Description	Your Cost
PL-247	Plug	$0.09
JP-248	Jack	.15

INSULATED BANANA PLUG AND JACK

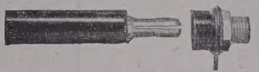
Positive spring action insures perfect contact.



Cat. No.	Type	Color	Your Cost
PL-477R	Plug	Red	$0.12
PL-477B	Plug	Black	.12
PJ-478R	Jack	Red	.11
PJ-478B	Jack	Black	.11

GIANT INSULATED BANANA PLUG AND JACK

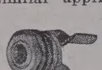
Excellent Plug and Jack for all heavy duty purposes. Plug has large wiping area, positive spring action making perfect contact.



Cat. No.	Type	Color	Your Cost
PL-475R	Plug	Red	$0.27
PL-475B	Plug	Black	.27
PJ-476R	Jack	Red	.21
PJ-476B	Jack	Black	.21

MICROPHONE JACKS

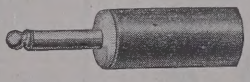
These panel mounting jacks for control panels and similar applications where space is at a premium. Nickel plated finish, contacts of spring brass. Jacks come complete with insulated washers. Will accommodate standard plugs.



Cat. No.	Contacts	Your Cost
J-1038	2	$0.24
J-1058	3	.36

PHONE PLUGS

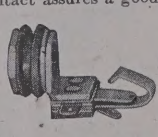
Metal parts machined from brass, and nickel plated. Unshielded plugs have handles of black bakelite, and shielded types brass knurled handles, nickel plated. No. FP-1946 **Without Handle**, is used as an adapter between a female microphone cable connector and a regular phone plug jack.



Cat. No.	Contacts	Handle	Your Cost
FP-230	2	Bakelite	$0.30
FP-282	2	Shielded	.51
FP-1057	3	Bakelite	.57
FP-284	3	Shielded	.84
FP-1946	2	None	.21

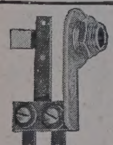
MIDGET JACK

This jack has applications where there's limited space behind panel. Spring brass contact assures a good connection. Supplied with insulating washers. Accommodates standard phone plugs.



Cat. No.	Type	Your Cost
J-232	Open Circuit	$0.21
J-233	Closed Circuit	.27

GENERAL PURPOSE JACKS

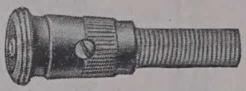


Although small in size, careful design and high quality materials assure dependable service. Spring is nickel silver; permits snap action and positive tension. Circuit opening contacts made of pure silver. Laminated bakelite insulation prevents breakdown between springs at all ordinary voltages. Supplied with panel insulating washers.

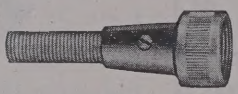
Cat. No.	Contact Arrangement	Your Cost
J-1324	Open circuit	$0.27
J-1325	Closed circuit	.30
J-1326	3-contact open circuit	.36
J-1327	Break contact on tip and ring spring	.39
J-1328	Separate make contact springs	.39
J-1329	Break contact on tip spring—separate make contact spring	.45
J-1330	Break-make contact on tip spring	.39

SINGLE CONTACT CABLE CONNECTORS

Unbreakable contacts for single-conductor microphone cable are provided by these shielded connectors. Made of brass, nickel plated. Accidental disconnections impossible by coupling ring which, when tightened, insures perfect contact between soldered connections. Cord protectors of steel spring wire will take cables up to ¼" in diameter.



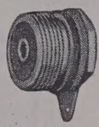
CN-245



CN-244

Cat. No.	Description	Your Cost
CN-244	S. C. Female	$0.30
CN-245	S. C. Male	.24

CHASSIS UNITS



Male Connector designed for chassis mounting in connection with CN-244. Where ground to chassis is desired, mount in $\frac{13}{32}$" hole; for two circuits independent of chassis, mount in ½" hole; insulating washers are furnished.

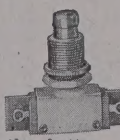
Cat. No. CN-246..Your Cost $0.18

JACK CONNECTORS

Used on the end of an extension cable for speakers, earphones, microphones, etc. Handle construction identical with Phone Plugs. Contacts are made of spring brass. Jack fits all regular Phone Plugs.

Cat. No.	Contacts	Handle	Your Cost
JP-1039	2	Bakelite	$0.36
JP-279	2	Shielded	.66
JP-1059	3	Bakelite	.57
JP-283	3	Shielded	.84

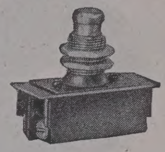
PUSH-BUTTON SWITCH



Two-circuit slow-make and quick-break momentary contact switch. One circuit is "ON" and the other is normally "OFF." Pushing the button reverses the position of the circuits. Same switch is used on a number of commercial test sets. Shank is ⅝" long.

Cat. No. SW-743..Your Cost $0.51

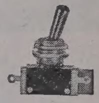
POWER SWITCHES



Designed for interrupting heavy currents too great for ordinary switches. Both are double pole, single throw. Rated at 12 amps. at 125 volts or 6 amps. at 250 volts. By paralleling the contacts, making the switch single pole single throw, these ratings may be doubled. Made for BUD by H. & H. No. SW-1269 is a regular toggle type switch for all standard applications. No. SW-1270 is a push-button type with both contacts normally in the open position. Intended as a safety switch to be used in an interlock connection on rack cabinets, etc., to interrupt the primary current whenever the door is opened. Both switches are 1¾" long, ¾" wide, and ¾" high and have a threaded shank $\frac{15}{32}$" in diameter and $\frac{7}{16}$" long. No. SB-1348 is a bracket for holding No. SW-1270 switch in position in any rack cabinet.

Cat. No.	Your Cost
SW-1269	$0.90
SW-1270	1.50
SB-1348—Bracket	.36

BAT-HANDLED TOGGLE SWITCHES

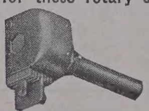


Identical with the regular line of toggle switches listed below except that handle is longer and shaped like a baseball bat. Available only in nickel plated finish with $\frac{7}{16}$" shank. Packed 5 to a carton. Contacts are silver plated.

Cat. No.	Description	Your Cost
SW-1115	S. P. S. T.	$0.33
SW-1118	S. P. D. T.	.42
SW-1119	D. P. S. T.	.51
SW-1120	D. P. D. T.	.66

ROTARY SWITCHES

Used where rotary action with a knob is desired instead of toggle action. Underwriter approved. Ratings same as for toggle switches. **No. DP-1230 listed below is an OFF-ON plate especially intended for these rotary switches.**



Cat. No.	Des.	L Shank	L Shaft	Your Cost
SW-499	SPST	⅜"	1⅛"	$.36
SW-1070	SPST	1"	1½"	.42
SW-1071	SPDT	⅜"	1⅛"	.45
SW-1072	SPDT	1"	1½"	.54
SW-1073	DPST	⅜"	1⅛"	.63
SW-1074	DPST	1"	1½"	.72
SW-1075	DPDT	⅜"	1⅛"	.72
SW-1076	DPDT	1"	1½"	.84
DP-1230	OFF-ON Plate			.08

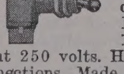
ROTARY SWITCH

Off-On Plate

This plate serves as an indicator for a rotary type power switch when used with a small bar knob.

Cat. No. DP-1230..Your Cost $.08

TOGGLE SWITCHES



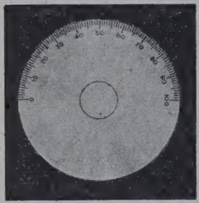
These standard type toggle switches. Underwriter approved. Rated at 3 amps. at 125 volts or 1 amp. at 250 volts. Heavy soldering connections. Made for BUD by H. & H. Nickel plated or bronze finish. Nickel supplied unless bronze is specified. Packed 5 to a carton. Contacts silver plated, bakelite insulation.

Cat. No.	Des.	Shank Length	Your Cost
SW-1003	S.P.S.T	$\frac{15}{32}$"	$0.33
SW-1004	S.P.S.T.	¾"	.36
SW-1005	S.P.D.T.	$\frac{15}{32}$"	.42
SW-1006	S.P.D.T.	¾"	.45
SW-1007	D.P.S.T.	$\frac{15}{32}$"	.57
SW-1008	D.P.S.T.	¾"	.60
SW-1009	D.P.D.T.	$\frac{15}{32}$"	.66
SW-1010	D.P.D.T.	¾"	.72
SW-1077	Closes 3 circuits, for RCA, etc.	¼"	.54
SW-1036	"Off-On" Plate		.03

ETCHED DIAL PLATES

Raised polished markings on black enameled background. The plate material is aluminum, and the center holes are $\frac{13}{32}$" in diameter.

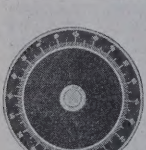
Cat. No.	Arc	Calib.	Markings	Your Cost
DP-1276	180°	0 to 100	Tracking	.18
DP-1179	300°	0 to 100		.18
DP-1224	300°	0 to 100	Record	.18
DP-1225	300°	0 to 100	Microph.	.18
DP-1226	300°	0 to 100	Gain	.18
DP-1227	300°	0 to 100	Tone	.18
DP-1275	300°	0 to 100	R. F. Gain	.18
DP-1228			Tone Cont.	.18
DP-1229		Arrow	Volume	.18
DP-1273	Marked 1 to 5 for Rotary Sw.			.18
DP-1274	Marked 10 to 160 for Band Sw.			.18



DIAL PLATES

For making up special types of tuning and indicating equipment. Handsome spun chromium finish. Numerals and divisions are die-stamped and filled with black enamel.

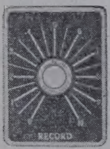
Cat. No.	Dia.	Arc	Calibrated	Your Cost
DP-716	2¾"	360°	0 to 100	.30
DP-719	2¾"	180°	0 to 100	.57
DP-720	2¾"	180°	100 to 0	.57
DP-721	4"	180°	0 to 100	.75
DP-722	4"	180°	100 to 0	.75
DP-562	3"	325°	0 to 10	.24



UNIVERSAL DIAL PLATES

Black enameled background on aluminum, etched plates, popular for all types of installations. Universal application; calibration over the whole 360° in two divisions—clockwise over 180° from 0 to 100, and counter-clockwise from 0 to 100, over the other 180°. Center hole is ⅜" in diam.

Cat. No.	Dia.	Arc	Calibrated	Your Cost
DP-714	2"	360°	0 to 100 to 0	$0.18
DP-715	3"	360°	0 to 100 to 0	.24



RECTANGULAR DIAL PLATES

These Etched Dial Plates, can be used when a more "streamlined" effect is desired. All plates are calibrated for 300° rotation, measure 1$\frac{11}{16}$" x 2¼".

Cat. No.	Marking	Your Cost
DP-978	Record	$0.18
DP-979	Microphone	.18
DP-980	Gain	.18
DP-981	Tone	.18
DP-982		.18

MICROPHONE

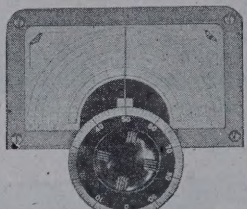
JACK NAME PLATES

For identifying input and output circuits. Nos. DP-1262 and DP-1271 are toggle switch identification nameplates. Polished letters on black enameled background. Diameter of all plates 1⅛".

Cat. No.	Marking	HoleSize	YourCost
DP-1180	Microphone	$\frac{13}{32}$"	$0.12
DP-1181	Phono Pick Up	$\frac{13}{32}$"	.12
DP-1182	Phones	$\frac{13}{32}$"	.12
DP-1272	Key	$\frac{13}{32}$"	.12
DP-1271	On—Off	.475"	.12
DP-1262	High—Low	.475"	.12

VERNIER DIAL—*GEARED TYPE*

This new and improved precision-built, vernier dial of attractive appearance, has been designed for industrial, laboratory and amateur radio applications. Many uses can be found for this gear-driven dial on electron-coupled oscillators, frequency meters, receivers and many other types of instruments and laboratory equipment which requires ease of tuning and accuracy of calibration.



Freedom from back-lash is obtained by the use of spring-loaded laminated steel gears which are of the ratio ten to one. Each dial comes furnished with three paper dial scales upon which calibration marks can be imprinted. These dial scales are printed with five calibration arcs for wave band identification and each arc is divided into five equal sections over 180 degrees, which makes each section the equivalent of one rotation of the circular dial or 100 dial divisions. This enables a calibration of 500 divisions over the entire scale.

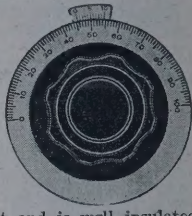
The dial is furnished mounted, complete with all hardware, on a steel template from which the mounting holes can be easily scribed. An attractive gray crackle frame outlines the dial scale which is further protected by a "Plastacele" window. The whole dial scale assembly mounts independent of the gear unit and may be removed any time desired without disturbing the dial drive. Mounting area of the dial is 5¼" x 5¾". Depth behind panel is 1½".

Cat. No. D-1729....................**Your Cost $2.70**

VERNIER DIALS—*FRICTION TYPE*

Friction drive gives smooth vernier action. Dials calibrated 0 to 100 clockwise over 360 degrees. The face of dial is glossy black enamel; rim and numerals are polished metal. Dials fit ¼" shafts. Included are a single line indicator and a black wheel knob on the vernier drive.

Cat. No.	Div.	Dial Dia.	Plate Height	Mtg. Holes	Your Cost
D-1944	0-100	2¾"	3⅝"	1⅝"	$1.20
D-1945	0-100	4"	4⅞"	2¼"	1.50
D-1919	Vernier Dial Drive				.18



TUNING DIALS

Outstanding appearance; accurate calibration for transmitters, receivers, and instruments Knobs are fluted for easy finger grip; made of bakelite. Spun finish chromium plated brass. Runs perfectly concentric with the shaft and is well insulated. Numerals, lines are die-stamped for accuracy and filled with black enamel. Dials cover 180° arc. Nos. D-1732 to D-1735 supplied with a single line indicator. Nos. D-1895 to D-1898 supplied with vernier indicators which enable readings of one part in 1000 to be made accurately.

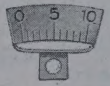
WITH VERNIER INDICATOR

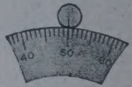
Cat. No.	Dial Div.	Diam.	Your Cost
D-1895	0-100	2¾"	$1.11
D-1896	100-0	2¾"	1.11
D-1897	0-100	4"	1.50
D-1898	100-0	4"	1.50

WITH SINGLE LINE INDICATOR

Cat. No.	Dial Div.	Diam.	Your Cost
D-1732	0-100	2¾"	$0.99
D-1733	100-0	2¾"	.99
D-1734	0-100	4"	1.50
D-1735	100-0	4"	1.50

INDICATORS ONLY

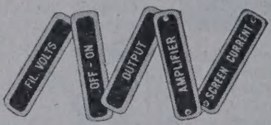




Cat. No.	Type	Wid.	Ht.	Your Cost
IN-723	Vernier for 2¾" Dial	$\frac{11}{16}$"	¾"	$.24
IN-725	Vernier for 4" Dial	⅞"	¾"	.24
IN-1736	Single Line			.12

NAME PLATES

Made of aluminum with polished letters on black enameled background. Plates are ⅜" x 1½". Shipping weight of 10—½ lb.



Cat. No. Name

N-1130—Oscillator
N-1131—Plate Volts
N-1132—Microphone
N-1133—Input
N-1134—Monitor
N-1135—D. C. Volts
N-1136—Send
N-1137—Selector
N-1138—Buffer
N-1139—Crystal Osc.
N-1140—C. W. Phone
N-1141—200 Ohm
N-1142—500 Ohm
N-1143—Tone Control
N-1144—Fil. Volts
N-1145—Rectifier
N-1146—Output
N-1147—Freq. Meter
N-1148—Beat Osc.
N-1149—Receive
N-1150—Send—Receive
N-1151—Plate
N-1152—Power Amp.
N-1153—Neutralizer
N-1154—Fader
N-1155—Antenna
N-1156—Key
N-1157—A. C. Input
N-1158—Transceiver

Your Cost — $0.07

Cat. No. Name

N-1159—A. C. Volts
N-1160—Speech Amp.
N-1161—Gain Control
N-1162—Tritet Osc.
N-1163—Grid
N-1164—Modulator
N-1165—Doubler
N-1166—Transmitter
N-1167—Amplifier
N-1168—Plate Volt.
N-1169—Off—On
N-1170—Class "B" Mod.
N-1171—Grid Current
N-1172—Ground
N-1173—Crystal Osc. Plate
N-1174—Buffer Plate
N-1183—Buffer Grid
N-1184—Power Amp. Plate
N-1185—Power Amp. Grid
N-1186—Screen Current
N-1231—Modulator Plate
N-1232—Modulator Grid
N-1233—Microphone Cur.
N-1234—200 Ohm Input
N-1235—200 Ohm Output
N-1236—500 Ohm Input
N-1237—500 Ohm Output
N-1238—Radio
N-1239—Record

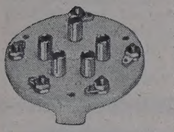
Your Cost — $0.07

Cat. No. Name

N-1240—Speaker
N-1700—5 Meters
N-1701—10 Meters
N-1702—20 Meters
N-1703—40 Meters
N-1704—80 Meters
N-1705—160 Meters
N-1706—Line
N-1707—Silencer
N-1708—Xtal Filter
N-1709—Phasing
N-1710—Bandset
N-1711—Band Switch
N-1712—Preselector
N-1713—Regeneration
N-1714—Volume
N-1715—R. F. Gain
N-1716—A. F. Gain
N-1717—E. C. Oscillator
N-1718—"R" Meter
N-1719—Phones
N-1720—Exciter
N-1721—Plate Current
N-1722—Mod. Current
N-1723—Ant. Current
N-1724—Xtal Current
N-1725—Doubler Current
N-1726—Buffer Current

Your Cost — $0.07

CERAMIC TRANSMITTING TUBE SOCKETS



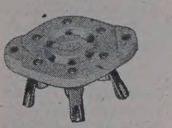
Efficient and sturdy mounting base for the larger types of transmitting tubes. Made of high grade glazed white ceramic on which are mounted the special close fitting nickel plated contacts and connection terminals.

No. S-226 accommodates all regular 4 prong tubes with standard 50 watt bases.

No. S-227 is for transmitting pentodes such as the 803, RK-28, etc.

Cat. No.	No. of Contacts	Your Cost
S-226	4	$0.66
S-227	5	.99

LOW-LOSS TUBE SOCKETS

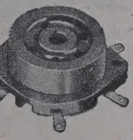


Each socket is constructed on a low loss glazed mold of white ceramic, with connections having a large contact area and a positive spring action. The molded step at each mounting hole eliminates any possibility of contacts shorting to chassis. Each socket is furnished with two mounting bushings and washers. Top grooved for easy tube insertion.

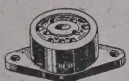
Cat. No.	Prongs	Width	Length	Your Cost
S-954	4	1⅝″	2¼″	$0.27
S-955	5	1⅝″	2¼″	.27
S-956	6	1⅝″	2¼″	.30
S-957	7 Sm.	1¾″	2¼″	.33
S-958	7 Med.	1 27/32″	2¼″	.33
S-959	8	1⅝″	2⅜″	.36

MOLDED BAKELITE SOCKETS

The springs are of genuine phosphor bronze. Mounting hole centers are 1 11/16″ apart, and the round portion of the socket extends 7/16″ above base.



Breadboard



Sub-panel

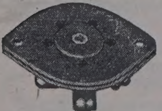
BREADBOARD OR SUB-PANEL MOUNTING

Cat. No.	Prongs	Your Cost
S-264	4	$0.24
S-265	5	.24
S-266	6	.24
S-267	7 Med.	.27
S-885	7 Sm.	.27

SUB-PANEL MOUNTING ONLY

Cat. No.	Prongs	Your Cost
S-268	4	$0.18
S-269	5	.18
S-270	6	.21
S-271	7 Med.	.21
S-983	7 Sm.	.21
S-1060	5-6-Sm. 7 Comb.	.24
S-1061	7 Comb.	.24
S-1062	4-5-6 Comb.	.24
S-1063	8 Octal	.24

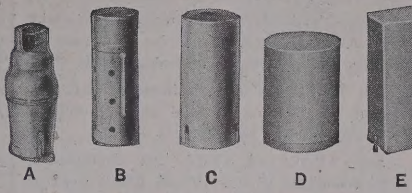
WAFER SOCKETS



Made from high grade sheet bakelite, these sockets have spring bronze contacts, cadmium plated, making very positive contact with tube prongs. Supplied with 1½″ mounting hole centers. No. S-380 supplied in 1 27/32″ mounting.

Cat. No.	Prongs	Your Cost
S-113	4	$0.08
S-114	5	.08
S-363	6	.09
S-1016	7 Sm.	.09
S-380	7 Med.	.09
S-390	8 Octal	.11
S-389	8 Loctal	.11

SHIELDS



(A)—GLOVE TYPE TUBE SHIELDS

When space is at a premium, this line is the ideal solution to tube shielding. Shield attaches directly around tube and is ordinarily grounded by means of the clamp furnished with each unit. The grounding clip also included with each shield enables the shield to be grounded through the cathode pin should it be inconvenient to install the regular clamp.

Cat. No.	Description	Dia.	Hgt.	Your Cost
SH-943	Fits ST 12 bulb tubes	1 11/16″	4″	$0.15
SH-944	Fits ST 14 bulb tubes	2″	4½″	.15
SH-945	Fits T-9 Bantam tubes	1¼″	3⅝″	.11
SH-946	Same as SH-945 with grid cap	1¼″	3⅝″	.13

(B)—THREE-PIECE TUBE SHIELDS

The three-piece construction of these shields greatly facilitates the insertion and removal of tubes. The base mounts directly over the wafer socket on the chassis, assuring a good ground for the shield. Overall height is 4½″ and inside diameter is 1 9/16″.

Cat. No.	Material	Mtg. Hole Centers	Your Cost
SH-392	Aluminum	1 27/32″	$0.21
SH-391	Aluminum	1½″	.21

(C)—UNIVERSAL TUBE SHIELDS

These shields are intended for covering large diameter tubes and for all general tube shielding where space is not at a premium. Each unit is supplied with base and is 2 1/16″ inside diameter. No. SH-292 is 4½″ high. No. SH-278 is 2¾″ high, and makes an ideal shield for such tubes as RK-39, 807, etc.

Cat. No.	Material	Mtg. Hole	H	Your Cost
SH-292	Aluminum	1 27/32″	4½″	$0.21
SH-278	Aluminum	1 27/32″	2¾″	.21

(D)—ROUND SHIELD CAN

Perfect shielding is assured when using these aluminum cans around plug-in coils and other types of inductances. Each shield is supplied with mounting base and measures 3″ in diameter and 3½″ high.

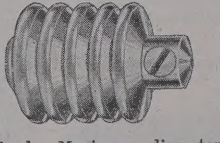
Cat. No. SH-293..................................**Your Cost $0.33**

(E)—SQUARE SHIELD CANS

The large size Aluminum Shield is well suited to house special I. F. transformers, fixed tuned tanks in exciters, etc. The small size Aluminum Shield is ideal for shielding chokes and small coils. Both are supplied with attached mounting bolts.

Cat. No.	D	W	H	Your Cost
CH-294	1⅜″	1⅜″	1 7/16″	$0.18
SH-295	2″	2½″	5″	.33

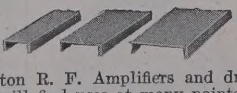
HEAT RADIATING CONNECTORS



This connector has been designed to dissipate heat generated at the grid and plate terminals of transmitting tubes, thereby preventing damage to the glass seal. Nos. TC-488 and TC-489 are for wire leads. Nos. TC-1920 and TC-1921 are for cap type leads. Maximum diameter of lead accommodated by each type is indicated in "Tube Lead Size" column.

Cat. No.	For	Tube Lead Size	Lgth.	Dia.	Your Cost
TC-488	HK-24	.049″	13/16″	⅝″	$0.30
TC-489	35-T, HK-54, etc.	.069″	13/16″	⅝″	.30
TC-1920	100-T, 807, etc.	.360″	15/16″	15/16″	.51
TC-1921	866, T-125, etc.	.560″	15/16″	15/16″	.51
TC-1923	450-TH, etc.	.110″	15/16″	15/16″	.51

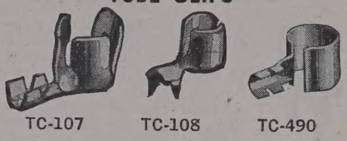
FORMED CHANNELS



In the building of skeleton R. F. Amplifiers and driver stages these channels will find uses at many points in the construction. They will also be found useful in mounting or supporting components of standard transmitters or receivers. Made of 1/16″ Aluminum, they are easily drilled and cut to size.

Cat. No.	Width	Height	Length	Your Cost
AC-259	1″	⅜″	12″	$0.30
AC-260	1½″	⅜″	12″	.33
AC-261	2″	⅜″	12″	.39

TUBE CLIPS



Uses to which these clips may be put are clearly listed below. Made of heavy gauge spring brass, cadmium plated.

Cat. No.	Type Tube	Your Cost
TC-490	Transmitting	$0.06
TC-107	Glass	per C 1.08
TC-108	Metal	per C 1.08

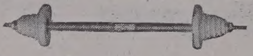
SOLDERING IRON TIPS

This tip is made of a special copper base rod. It is ⅜″ diameter x 4″ long and is made particularly as a replacement for American Beauty Irons. However, it will fit many other types of irons that are designed to accommodate ⅜″ dia. tips. Fits American Beauty No. 3183.

Cat. No. IT-372................**Your Cost $0.36**

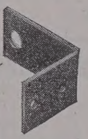
WALL LEAD-IN

This Lead-In is used to facilitate bringing antennas or feeders through a wall or window casing with ease and safety. Unit consists of a 12″ threaded brass rod insulated with heavy fibre sleeving and two heavy ceramic insulators. Rod and insulation may be readily cut to any desired length.



Cat. No. I-742................**Your Cost $0.51**

INTERLOCK SWITCH-BRACKET

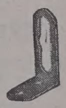


The Interlock Switch-Bracket is offered as a means of mounting the highly essential safety switch used in an interlock connection in rack cabinets, etc., to break the primary current when the cabinet is opened for inspection, alterations, or repairs. The Switch-Bracket is drilled to take the 15/32″ shank of a power switch. SW-1270 switch is recommended for this purpose.

Cat. No. SB-1348............**Your Cost $0.36**

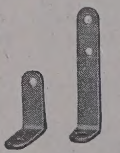
SLOTTED MOUNTING BRACKET

This bracket is designed to permit the mounting of Midget Condensers, volume controls, etc., at any desired position under or on top af a chassis, at the proper distance from the chassis. Bracket is made of steel, cadmium-plated.



Cat. No. AB-549—Approx. ship. wt. 100—10 lbs. ....**Your Cost $0.06**

ANGLES AND BRACKETS



Type 1 Type 2

A wide selection in sizes and dimensions of these angles provides for numerous uses as brackets in all types of radio transmitter and receiver construction, as well as many other pieces of electronic equipment.

Type 1

Cat. No.	H	D	W	Your Cost
AB-444	½″	½″	⅜″	$1.65 C
AB-445	¾″	¾″	⅜″	2.31 C
AB-446	1″	1″	⅜″	2.64 C
AB-447	1½″	1½″	⅜″	3.30 C
AB-631	1″	½″	⅜″	1.98 C
AB-632	1½″	⅝″	⅜″	2.64 C

Type 2

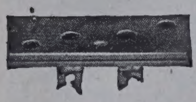
Cat. No.	H	D	W	Your Cost
AB-633	2″	⅝″	⅜″	$3.60 C
AB-634	3″	¾″	⅜″	5.28 C
AB-635	4″	¾″	⅜″	6.60 C

NOTE: H—Denotes Height; D—Depth; W—Width; L—Length.

POLARIZED CONNECTORS

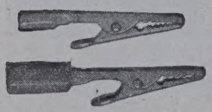
Where it is desirable to make dual connections readily without reversing polarity, these Connectors may be used. They are especially desirable in certain types of line terminations and microphone connections. Metal cap for shielding is supplied with plug and measures 1" in diameter and 1" long.

Two types of sockets are available. One is unshielded type designed for mounting directly on the chassis or cabinet. The other is a shielded type having the same type shell as the plug and is designed for inter - connecting microphone lines etc.



Cat. No.	Description	Contacts	Your Cost
PC-461	Plug	2	$0.18
PC-463	Plug	3	.18
PC-462	Plain Socket	2	.15
PC-464	Plain Socket	3	.15
PC-1968	Sh. Socket	2	.18
PC-1969	Sh. Socket	3	.18

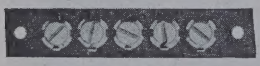
ALLIGATOR CLIPS



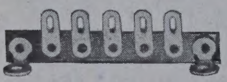
Accurately made, supplied with or without insulated ends.

Cat. No.	Type	Your Cost
CL-485	Regular	$0.06
CL-486R	Insulated Red	.12
CL-486B	Insulated Black	.12

INSULATED MOUNTING STRIPS



Screw Type



Lug Type

SCREW TYPE TERMINAL STRIPS

The screw-type terminals are made of cadmium plated brass and are mounted on $\frac{1}{16}$" thick bakelite strips. Ideal for either chassis or breadboard layouts. The screws are so made that they will lock in place and not drop out when open to their maximum length.

Cat. No.	Contacts	Mounting Centers	Your Cost
TS-1970	2	1$\frac{5}{16}$"	$0.07
TS-1971	3	1¾"	.08
TS-1972	4	2$\frac{3}{16}$"	.12
TS-1973	5	2⅝"	.13
TS-1974	6	3$\frac{1}{16}$"	.15
TS-1975	8	3$\frac{15}{16}$"	.21

LUG TYPE INSULATED MOUNTING STRIPS

These strips are handy for neatly supporting resistors, condensers, etc., in circuit wiring.

Cat. No.	Lugs	Mounting Centers	Your Cost
TS-367	1		$1.50 C
TS-368	2		2.25 C
TS-369	3	¾"	3.60 C
TS-370	4	1⅞"	4.50 C
TS-374	5	2$\frac{3}{16}$"	5.40 C
TS-375	6	2⅝"	6.60 C

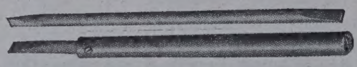
INSULATED ALIGNMENT TOOLS

Nos. AT-254 to AT-256 are hard fibre trimmer wrenches with ¼" hex. broaching through the entire length. Ends can be easily cut off as they become frayed or broken from wear.

No. AT-235 is a ¼" diameter rod of a special tough fibre, beveled at each end to form screw-driver blades.

Nos. AT-236 to AT-237 are combination tools consisting of No. AT-235 driver inserted in an extra-heavy fibre tube which is hex. broached the entire length. Tools may be held at any length between specified limits by set screw provided.

AT-254 to AT-256



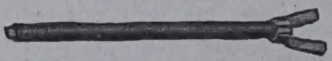
Top illus., AT-235; bottom AT-236, AT-237

Cat. No.	Length	Your Cost
AT-254	5½"	$0.18
AT-255	8"	.21
AT-256	12"	.27
AT-235	7"	.27
AT-236	7" to 10"	.51
AT-237	11" to 17"	.60

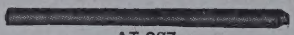
ALIGNMENT TOOLS

No. AT-285 has a metal screw-driver tip at one end, and a metal alligator jaw at the other end for hex. head and knurled nuts.

No. AT-287 has a hard fibre handle with metal screw-driver at one end.



AT-285

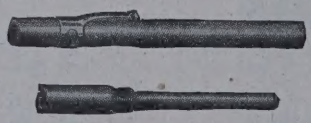


AT-287

Cat. No.	Your Cost
AT-285	$0.30
AT-287	.24

4-IN-I TOOL

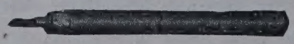
This handy alignment tool should be in the vest pocket of every service man. Consists of (1) insulated screw-driver, (2) Fin-type adjustment slot, (3) $\frac{5}{16}$" hex. wrench, and (4) ¼" hex. wrench.



Cat. No AT-118....................Your Cost $0.51

TEST PRODS

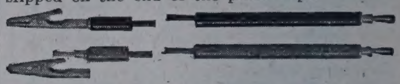
These tapered test prods are made of cast phenol resin. Tips screw into handle. Specify either Red or Black.



Cat. No.	Length	Your Cost
TL-187	5"	$0.24
PT-188	2"	.11
PT-189	2⅜"	.11
PT-190	1½"	.11

DE LUXE TEST LEADS

TL-620 TEST LEADS illustrated are the New BUD Superior type Test Leads made from the finest type of very flexible kinkless rubber covered wire, with polished plastic handles at both ends. Also supplied with this pair of Test Leads are two alligator clips that can be slipped on the end of the phone tips.



TL-621 TEST LEADS are supplied with two sets of prods so that the user can interchange from needle point to phone tip point.

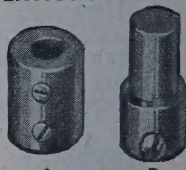
TL-186—Same as TL-620 less Alligator Clips.

TL-397S and TL-397P. Have Plastic Handles with special chuck points holding removable needle tips for piercing through insulation.

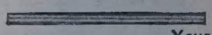
TL-398S and TL-398P. Are supplied with Plastic Handles and Standard Phone Tip Plugs that can be removed from insulated handle in case of wire breakage.

Cat. No.	Prod End	Terminals	Your Cost
TL-620	Phone Tip	Alligator Clip or Phone Tip	$.90
TL-621	Needle Point or Phone Tip	Phone Tip	.90
TL-186	Phone Tip	Phone Tip	.81
TL-397S	Needle Point	Spade Tip	.54
TL-397P	Needle Point	Phone Tip	.54
TL-398S	Phone Tip	Spade Tip	.54
TL-398P	Phone Tip	Phone Tip	.54

SHAFT COUPLINGS, REDUCERS, AND EXTENSIONS



As indicated in the heading, these items are intended for connecting two shafts, changing diameter of shafts, or for increasing shaft lengths. Made of brass, nickel plated, packed 5 to a box.



Cat. No.	Description	Type	Your Cost
SE-1049	¼" Coupling	A	$0.12
SE-1050	⅜" Coupling	A	.12
SE-1051	¼" to ⅜" Coupling	A	.12
SE-1052	¼" Hole to ¼" Shaft Extension	B	.12
SE-1053	⅜" Hole to ¼" Shaft Reducer	B	.12
SE-1054	¼" Hole to ⅜" Shaft Increaser	B	.12
SE-1056	¼" x 6" Brass Shaft		.12
SE-796	¼" x 12" Brass Shaft		.24

INSULATED

Cat. No.	Description	Type	Your Cost
SE-1206	¼" Coupling	A	$0.12
SE-1207	⅜" Coupling	A	.12
SE-1208	¼" to ⅜" Coupling	A	.12
SE-1209	¼" Hole to ¼" Shaft Extension	B	.12
SE-1210	⅜" Hole to ¼" Shaft Reducer	B	.12
SE-1211	¼" Hole to ⅜" Shaft Increaser	B	.12
SE-1055	¼" x 6" Fibre Shaft		.18
SE-797	¼" x 12" Fibre Shaft		.33
SE-1978	¼" x 6" Bakelite Shaft		.30
SE-1979	¼" x 12" Bakelite Shaft		.54

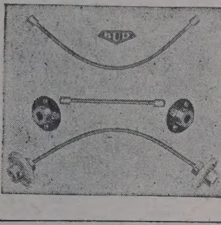
SPEAKER AND EARPHONE CORDS

These cords are made of kinkless stranded wire covered by a double braid with interwoven tracers. Each cord is 5 feet long, and the set ends are terminated with phone tips. The other ends may be had with either phone tips or eyelets. No. SC-546 is for speaker or single earphone. No. SC-547 is for regular dual earphone headset.

Cat. No.	Type	Your Cost
SC-546 T	Tips	$0.36
SC-546 E	Eyelets	.36
SC-547 T	Tips	.45
SC-547 E	Eyelets	.45

FLEXIBLE SHAFT COUPLINGS

When construction necessitates the mounting of condensers or potentiometers away from the panel and at unusual angles, these Flexible Shafts simplify panel control problems. Nos. FS-859 and FS-860 have ¼" bushings sweated to each end. Nos. FS-862 and FS-863 have Steatite insulated couplings attached to each end to fit ¼" shafts.



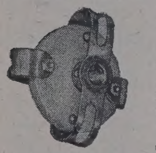
Cat. No.	Overall Length	Your Cost
FS-859	3"	$0.27
FS-860	6"	.36
FS-862	4"	.87
FS-863	7"	.99

INSULATED FLEXIBLE COUPLINGS

Tandem operation of two or more units is readily accomplished through the use of these couplers. Direct shaft alignment is not essential, and all couplers are made to fit ¼" shafts.

Cat. No.	Diam.	Insulation	Cost
FC-845	1 1/16"	Bakelite	$0.24
FC-855	1 ½"	Bakelite	.27
FC-795	1 1/16"	Ceramic	.33

HIGH VOLTAGE FLEXIBLE COUPLINGS

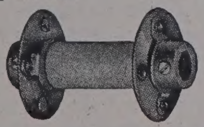


Permits unusual wide gap between shaft connections, freedom from backlash; flexibility. Springs are attached to glazed Steatite discs 1½" in diam. and 3/16" thick. Overall diameter of finished coupling is 1 15/16". Coupling accommodates ¼" shaft. Springs also attached to Bakelite discs 1½" in diameter.

Cat. No.	Insulation	Your Cost
FC-614	Steatite	$0.45
FC-619	Bakelite	.33

TRANSMITTER FLEXIBLE COUPLINGS

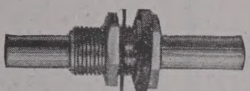
Will withstand exceptionally high voltage. Recommended for ganging of tuning units in R. F. or high potential circuits. The main body of these couplings is a glazed ceramic rod, and hubs are made to fit ¼" shafts.



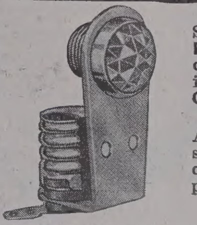
Cat. No.	Length	Your Cost
FC-740	1¾"	$0.45
FC-741	3¼"	.54

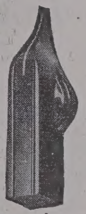
PANEL BEARING ASSEMBLIES

Nos. PB-530 and PB-531 consist of a regular ¼" shaft bearing with 6" and 3" length of ¼" brass rod inserted and held in place by washers to prevent shaft from shifting. These two numbers will be found very useful in facilitating the panel control of condensers, potentiometers, etc., which must be mounted a distance from the panel. Bearing fits in 13/32" hole and on panels up to 5/16" thick. No. PB-532 is bearing only without shaft.



Cat. No.	Overall Length	Your Cost
PB-530	6"	$0.30
PB-531	3"	.24
PB-532	Bearing Only	.12

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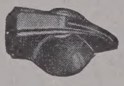
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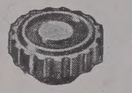
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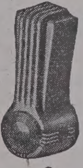
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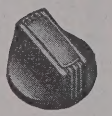
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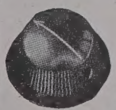
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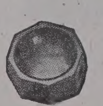
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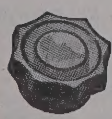
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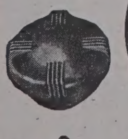
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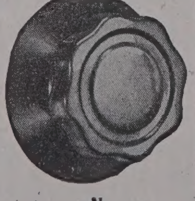
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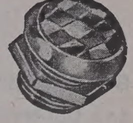
JEWELS

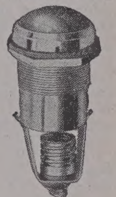
Ideal for replacement purposes and many other signal indicating requirements. The jewel holders are nickel-plated brass and fit panels up to ¼" thick. Colors available are Red, Green, Amber, Blue, Opal and Crystal. Specify color of jewel desired. Packed 10 to a box.



Cat. No.	Jewel	Dia.	Dia. of Bezel	Mntg. Hole	Your Cost
JL-1696F	Facetted	½"	9/16"	⅜"	$0.12
JL-1696S	Smooth	½"	9/16"	⅜"	.12
JL-1697F	Facetted	¾"	13/16"	11/16"	.33
JL-1691F	Facetted	1"	1¼"	1"	.60

ONE INCH JEWEL LIGHT ASSEMBLIES

Ideal indicators for Radio and Electrical Panel Switchboards, Amplifiers, Laboratory Equipment, Signal Devices, etc. Removable jewel provides instant access to bulb from front of panel. Available with miniature screw, miniature bayonet, or candelabra type sockets. Facetted and smooth-faced jewels can be supplied in Red, Green, Amber, Blue, Opal and Crystal. Specify color of jewel desired. The jewel holder is chrome plated. The mounting bracket depth is 2". A 1" diameter mounting hole is required.



Cat. No.	Type Socket	Jewel	Your Cost
JL-1698F	Candelabra 110 volt	Facetted	$0.78
JL-1698S	Candelabra 110 volt	Smooth	.78
JL-1699F	Miniature Screw	Facetted	.78
JL-1699S	Miniature Screw	Smooth	.78
JL-1699FB	Miniature Bayonet	Facetted	.78
JL-1699SB	Miniature Bayonet	Smooth	.78

¾" JEWEL LIGHT ASSEMBLIES

Supplied only with candelabra type sockets for 110 volt bulbs. Facetted jewels in Red, Green, Amber, Blue, Opal, and Crystal can be supplied. Specify color of jewel desired. Jewel holder is chrome plated. Overall height is 2"; depth behind panel is 1". An 11/16" diameter mounting hole is required.

Cat. No. JL-1695F Type Socket: Cand. 110 V. **Jewel:** Facetted **Your Cost $0.45**

½" JEWEL LIGHT ASSEMBLIES

Available with either miniature screw, miniature bayonet or candelabra type sockets. Red, Green, Amber, Blue, Opal, and Crystal can be supplied. Specify color of jewel. Jewel holders nickel-plated brass. Overall height is 1½"; depth behind panel is 1". A 7/16" diameter mounting hole is required. Packed 5 to a box.

Cat. No.	Type Socket	Jewel	Your Cost
JL-1692F	Miniature	Facetted	$0.21
JL-1692S	Miniature	Smooth	.21
JL-1693F	Cand. 110 volt	Facetted	.21
JL-1693S	Cand. 110 volt	Smooth	.21
JL-1694F	Min. Bayonet	Facetted	.21
JL-1694S	Min. Bayonet	Smooth	.21

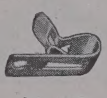
RADIO KNOBS

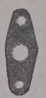
A variety of Bakelite Knobs, useful for all types of equipment. Shipping weight of 25 knobs, 1½ pounds.

Cat. No.	Type	Diam. In.	H In.	Color	Your Cost	Cat. No.	Type	Diam. In.	H In.	Color	Your Cost
K-579	A	1¼	⅝	Black	$.11	K-805	D	1	17/32	Black	$.15
K-580	A	1¼	⅝	Walnut	.11	K-806	D	1⅜	11/16	Black	.18
K-174	A	1¼	⅝	Red	.13	K-807	D	1¾	⅞	Black	.21
K-204	A	1¼	⅝	Green	.13	K-182	E	1	⅝	Black	.09
K-581	A	2¼	⅝	Black	.12	K-183	E	1	⅝	Walnut	.09
K-582	A	2¼	⅝	Walnut	.13	K-751	J	13/16	15/32	Walnut	.08
K-175	A	2¼	⅝	Red	.15	K-746	K	1⅛	19/32	Black	.10
K-205	A	2¼	⅝	Green	.15	K-747	K	1½	25/32	Black	.12
K-575	B	1¼	⅝	Black	.11	K-154	M	1⅛	⅝	Black	.24
K-576	B	1¼	⅝	Walnut	.11	K-155	M	1⅝	¾	Black	.30
K-559	B	1¼	⅝	Red	.13	K-156	M	2⅜	⅞	Black	.36
K-577	B	2¼	⅝	Black	.13	K-157	N	2 1/16	⅞	Black	.39
K-578	B	2¼	⅝	Walnut	.13	K-158	N	3	1	Black	.45
K-560	B	2¼	⅝	Red	.15	K-161	Q	1⅛	⅝	Black	.18
K-521	C	2	⅝	Walnut	.15	K-168	Q	1⅝	¾	Black	.27

NOTE: All knobs fit standard ¼" shaft.

SOLDERING LUGS AND TERMINALS


WC 297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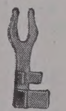
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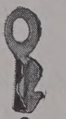
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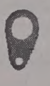
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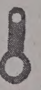
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No. WC-297—Spring Wire Clips. For solderless connections. Holds up to No. 10 wire. Spring brass. ⅜" x 1". Shp. wt. 100, 1 lb.

Cat. No. WC-297..**Your Cost per C $1.20**

Cat. No.	Type	Length	Mounting Hole	Width	Wire Opening	Your Cost per C
TL-42	A	27/32"	5/32"	11/32"	3/32"	$0.45
TL-43	B	1"	5/32"	⅜"	3/16"	1.08
TL-44	C	15/16"	7/32"	11/16"	⅛"	.66
TL-45	C	1⅛"	9/32"	½"	3/16"	.90
TL-46	D	13/16"	¼"	⅜"	⅛"	.51
TL-47	D	¾"	9/32"	13/32"	3/32"	.51
TL-48	D	11/16"	5/32"	5/16"	3/32"	.36
TL-49	D	⅞"	7/16"	9/16"	1/16"	1.20
TL-50	D	9/16"	⅛"	3/16"	3/32"	.36
TL-51	D	17/32"	3/32"	9/32"	1/16"	.42
TL-52	D	⅝"	7/32"	⅜"	1/16"	.36
TL-53	E	⅞"	⅛"	5/16"	3/32"	.48
TL-54	E	13/16"	7/32"	⅜"	3/32"	.69
TL-55	E	¾"	3/16"	5/16"	1/16"	.54
TL-56	E	⅝"	5/32"	15/64"	3/32"	.36
TL-57	C	11/16"	3/16"	11/32"	3/32"	.66

NEW BUD MICROPHONE STANDS

Bud Microphone Stands of the adjustable type, now incorporate a New Feature which does away with loosening and tightening of nut in order to change the height. Just what you and your customers have been looking for.

STUDIO FLOOR STAND

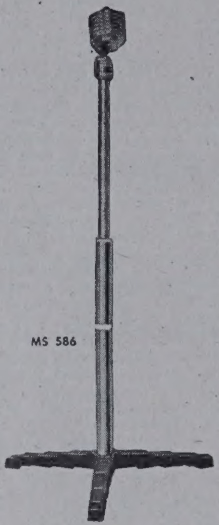
MS-586

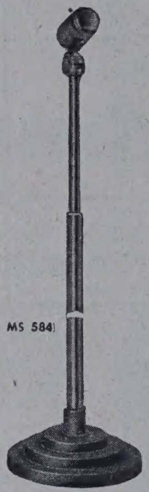
The Base is a three-legged casting with a spread of 17″. The advantages of using a microphone stand with this type of base are apparent. Should the microphone stand be placed on a floor that is not level, this tripod will sit solid on the floor and eliminate any possibility of vibration which can be transmitted into the microphone. The cast base is painted with a durable Black Crackle Enamel and then baked to insure a lasting finish.

The two telescoping sections are made of heavy gauge seamless brass tubing, chrome-plated, adjustable height 35″ to 67″. Top of stem threaded ⅝-27 for the usual crystal, velocity and dynamic microphones.

NEW FRICTION CLUTCH (patent applied for), Exclusive Bud Feature, incorporated in this Microphone Stand.

Cat. No. MS-586—Ship. wt. 11½ lbs.
Your Cost **$6.60**





JUNIOR FLOOR STAND

MS-584

This Junior Floor Stand represents an unusual value in a high quality Microphone Stand. This Microphone Stand is ideal for all general-purpose uses. The same fine chrome-plated brass tubing is used in this stand as described above with the exception that the outer tubing is smaller in size.

The base, 10″ in diameter, has a long extended boss which acts as a protection to the threads on the tubing. Height adjustment 33″ to 66″ with upper stem threaded ⅝-27 to fit all popular makes of microphones.

Cat. No. MS-584—Shipping weight 10 lbs.
Your Cost **$5.61**

DE LUXE FLOOR STAND

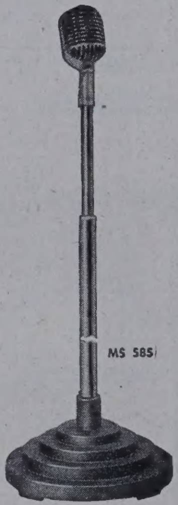
MS-585

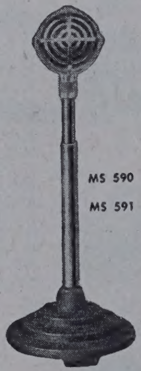
This De Luxe Floor Stand is the finest available in sturdy, heavy duty microphone stands. Base is a modernistic, massive 12″ casting with an extended boss which prevents tubing from breaking off at the threaded part which screws into the base should the base be tipped or an excessive strain be put on tubing. Base is finished in Black Crackle Enamel.

The tubing is of heavy gauge seamless brass; finished in highly polished chrome plate. Outside stem is 1″ in diameter and inside stem is ⅝″ in diameter. Height adjustments can be quickly and silently made, simply by raising or lowering the upper section.

The two telescoping sections can be adjusted from 35″ to 67″. Top section threaded ⅝-27 to fit crystal, velocity or dynamic microphones. NEW FRICTION CLUTCH Exclusive Bud Feature used in this Microphone Stand.

Cat. No. MS-585—Shipping weight 14 lbs.
Your Cost **$7.92**





ADJUSTABLE BANQUET STANDS

MS-590, MS-591

Well constructed with six inch cast base finished in Black Crackle.

Seamless brass tubing, chromium-plated, makes these stands beautiful in appearance as well as durable. NEW BUD FRICTION CLUTCH embodied in the telescoping stems offers quick and reliable adjustments of the height. The brass stem is threaded ⅝-27 for standard crystal, velocity and dynamic microphones.

MS-590, adjustable 10″ to 16″. MS-591, adjustable 13″ to 22″.

Catalog No.	Shipping Weight	Your Cost
MS-590	4½ lbs.	$3.30
MS-591	5 lbs.	3.78

MICROPHONE DESK STAND

MS-589

No. 589 Desk Stand is intended for use on desks, pulpits and pedestals. Base measures 6″ diameter and is finished in Black Crackle Enamel. Tubing is brass chrome-plated. Height from bottom of base to top of stem is 8″. Stem threaded ⅝-27 and will fit all microphones.

Cat. No. MS-589—Shipping weight 3¼ lbs.
Your Cost **$1.50**

MICROPHONE DESK STAND

MS-588

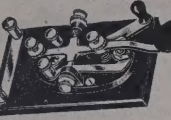
This Stand suitable for use on pulpits, pedestals, desks, and with recording outfits. Base 5″ in diameter. Modernistic design, tubing chrome-plated. Overall height without microphone 6″. Stem is threaded ⅝-27 to fit all microphones.

Cat. No. 588—Shipping weight 2 lbs.
Your Cost **$1.17**

AMERICAN RADIO HARDWARE CO., INC.

STANDARD KEY with BASE

(SC. Key J-38)



For amateur use in code practice and code training classes. Mounted on a triple X bakelite base, ⅛″ thick, 4¾″ long, and 3″ wide. Where necessary binding posts and contacts are insulated with a high grade bakelite washer. Fully adjustable, well balanced operating lever. All tension and adjusting screws are knurled. Polished nickel silver shorting spring for positive contact. The contacts are of high grade tungsten securely fastened to eliminate any chance of coming loose in operation.

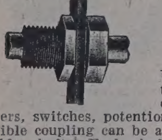
No.	Type	Price
519	Key with Bakelite Base	$5.00
467	Key Less Bakelite Base	3.50

J-37 KEY

A sending key with molded phenolic base. Key lever is heavy phosphor bronze. Spring steel lever spring. All hardware finely machined brass. Withstands voltage breakdown between contacts of 1000 volts raw A.C. and insulation of 1000 megohms.

No. 520..................Price $5.00

PANEL BEARING ASSEMBLY



Useful in facilitating the panel control of condensers, switches, potentiometers, etc. Flexible coupling can be attached to assembly shafts. Each shaft is grooved and "C" washers are placed on each end to prevent shaft from moving in and out of the bearing

No.	Type	Price Each
1625	6″ long	$0.50
1624	3″ long	.40
1613	12″ long	.60
1612	Bearing only	.20

INSULATED GRID CAPS

Consist of a sturdy cadmium plated, brass clip fastened within an ARHCOITE shell. 12″ wire, with a solderless phone tip on one end. Fits standard glass tube cap.

No.	Type	Price Each
418	Glass tube cap	$0.30

BAYONET TYPE DIAL SOCKETS

For use with bayonet type pilot bulb. Shell is securely eyeleted to the bracket proper. Center contact permits constant and positive pressure on bulb contact. Slotted or clip-on type bracket.

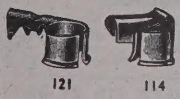
No.	Type	Price per C
1538	Straight UP bracket	$12.00
1539	Straight DOWN bracket	12.00
1540	UP clip-on bracket	12.00
1541	DOWN clip-on bracket	12.00

BRACKET TYPE LIGHT SOCKETS

Socket can be used on practically all sets. Bracket is adjustable over a wide range, to set properly on any dial. Socket available for miniature base or Candelabra base bulb. UP or DOWN type. Adjustment hole is ⅞″ long and 7/16″ wide. Overall height is 1¼″.

No.	Type	Price per C
36	Min. Base UP Bracket	$12.00
37	Min. Base DOWN Bracket	12.00
272	Can. Base UP Bracket	12.00
273	Can. Base DOWN Bracket	12.00

NEW METAL TUBE GRID CAPS



Spring steel in two models—one without a hole and one with a hole in the tail of the cap. Fits all standard miniature grid caps. Will take wire up to ⅛″ diameter.

No.	Type	Price per M
114	Glass Tube Caps	$5.50
121	Metal Tube Caps	5.00

INSULATED GLASS TUBE GRID CAPS

Designed to accommodate the standard glass tube grid cap. Spring brass clip assures permanent wiping contact. 12″ wire, shielded or plain. Standard colors.

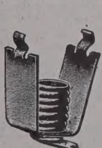
No.	Type	Price Each
139	12″ plain wire	$0.18
140	12″ shielded wire	.25

DUAL GRID CAP

Standard glass tube cap or small metal tube grid cap. Cadmium plated brass clips, securely eyeleted together. 15″ wire and standard phone tip or cap less wire. Cap made of ARHCOITE. Available in various colors.

No.	Type	Price Each
412	With 15″ wire	$0.35
413	Less wire	.30

CLIP-IN SOCKETS



A radically new design, constructed so that it may be clipped into a dial directly. This facilitates maintaining and changing of bulbs. Requires a mounting slot ¾″ long and ½″ wide. Made of cadmium plated tempered steel to assure a permanent grip.

No.	Type	Price per C
1759	Screw shell type, 2 lugs	$12.00
1760	Bayonet type, 2 lugs	12.00
1806	Candelabra type, 2 lugs	15.00

GRID CAP SHIELD

Fits firmly over the grid cap completely shielding the tube. Cadmium plated or black finish.

No.	Type	Price Each
92	Cadmium plated	$0.15
94	Black	.20

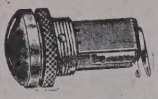
PANEL INDICATOR

DIM-E-ROID (Registered)

Suitable for use on instrument boards, signal systems, or any other apparatus, where it is required to adjust the intensity of the indicator light. Rough handling or usage will not affect the manual adjustment. Complete with a special designed clip bracket that won't jar loose or come apart; cannot be removed without unmounting the lamp. Bayonet base shell, which is insulated with a rice paper shell and two 12″ leads of Underwriters' Approved wire—mounts in ⅝″ diameter hole—projects ⅝″ from front of mounted surface—¾″ diameter—1¾″ overall. Red or green lens.

No. 1920..................Price $4.00

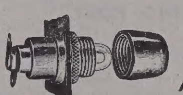
GIANT PANEL INDICATORS



Each pilot light indicator can be individually marked, by writing in the desired copy on the card disc supplied with each unit. When pilot lamp is illuminated, the writing is able to be seen three feet away. Bayonet or miniature type screw shell sockets. Mounts in ¾″ hole in panels up to ⅜″ thickness. Indicator is 1″ in diameter and extends 1⅜″ behind panel. Green, red, blue and crystal.

No.	Type	Price Each
1872	Bayonet	$1.00
1873	Miniature screw shell	1.00

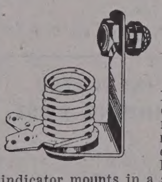
NEW PANEL LIGHT ASSEMBLY



Pilot light is accessible from front of panel. Assembly mounts in a single hole ⅝″ in diameter extends behind the panel for a distance of ½″, and projects from the front panel distance of ⅝″ and may be used on panels up to ⅜″ in thickness. Red, green or amber caps.

No.	Type	Price Each
1870	Miniature screw socket	$0.60
1871	Bayonet base socket	.60

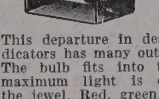
PANEL INDICATOR BRACKET



For use on all types of test equipment, receivers, or transmitters, or wherever an indicator lamp is used. The indicator mounts in a single hole 7/16″ in diameter and can be used on panels up to 5/16″ in thickness. Red, blue, white, green or amber glass jewels.

No.	Type	Price Each
39	Miniature socket	$0.45
93	Candelabra socket	.60
95	Bayonet socket	.45

HORIZONTAL PANEL INDICATOR ASSEMBLY



This departure in design of panel indicators has many outstanding features. The bulb fits into the jewel so the maximum light is concentrated thru the jewel. Red, green, amber, blue and white jewels.

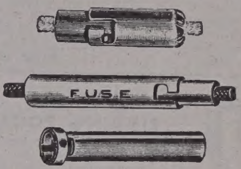
No. 88..............Price Each $0.85

GLASS JEWELS

Threaded shank or nut for force fit into the panel. Jewel is ½″ in diameter and mounts in a 7/16″ hole. Red, green, amber, white and blue.

No.	Type	Price Each
1545	Threaded	$0.20
1546	Force	.18

ANTENNA AND FUSE CONNECTORS



Made for automobile quick connections either on the antenna or ground line as well as for the standard three AG automobile fuses.

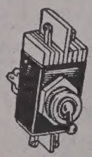
No.	Type	Price per C
221	Antenna connector	$10.00
222	Fuse retainer	15.00
231	Reinforced ring, Ant.	17.00
232	Reinforced ring, Fuse	20.00

HEAVY DUTY POWER SWITCHES

Made by H & H, for use in motors, transmitters, amplifiers, and other circuits where heavy current is carried. Three types with neutral off in center position. Rated at 10 amps. 125 volts. 2″ long, 1″ high, 1¼″ wide, mounting sleeve diameter ⅝″.

No.	Type	Price Each
1041	D.P.D.T.	$5.00
1042	T.P.D.T.	7.50
1043	4.P.D.T.	11.00

TOGGLE SWITCHES



Toggle switches by Hart and Hegeman. Capacity 1 amp. 250 volts—3 amps. 125 volts. Nickel plated.

No.	Type	Shaft Length	Price Each
1020	S.P.S.T.	15/32″	$0.50
1021	S.P.S.T.	1″	.55
1022	S.P.D.T.	15/32″	.70
1023	S.P.D.T.	1″	.75
1024	D.P.S.T.	15/32″	.95
1025	D.P.S.T.	1″	1.00
1026	D.P.D.T.	15/32″	1.10
1027	D.P.D.T.	1″	1.20
1028	On and Off Name Plate		.05

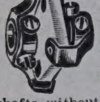
BAT HANDLE TOGGLE SWITCHES

Same as above with Bat shaped handle. Shaft length 15/32″. Nickel plated.

No.	Type	Price Each
1029	S.P.S.T.	$0.50
1030	S.P.D.T.	.70
1031	D.P.S.T.	.95
1032	D.P.D.T.	1.10

RADIO ESSENTIALS, INC. EXCLUSIVE DISTRIBUTORS OF ARHCO TO THE RADIO PARTS JOBBERS

AMERICAN RADIO HARDWARE CO., INC.



FLEXIBLE COUPLING

Flexible coupling with a square ceramic insulation 5/32″ thick. Couples standard ¼″ shafts without necessity of close alignment. Springs of tough phosphor bronze, all other hardware brass. Overall length approximately ⅞″, 1-3/16″ square.

No. 1922..................Price $0.75

ROUND TYPE COUPLING

Similar to No. 1922 except ceramic is 1″ diameter round, and 5/32″ thick. Bushings of brass, spring of phosphor bronze. Overall length ¾″.

No. 1921..................Price $0.55

LONG PIN BINDING POST

¾″ high without the threaded portion. Alongside the threaded portion, there is a small pin forced in the post so that it can be assembled in a set position on any type of apparatus. Stem is 9/16″ long threaded 6/32″. Overall length 1-5/16″. 1/16″ soldering tip, polished or dull nickel finish. Also available with the following engraved heads: + —.

No. 1756—Blank.....Price Each $0.60

SHORT PIN BINDING POST

¾″ high without threaded portion. Alongside of the threaded portion is a small pin forced into the post so that it can be assembled in a set position on any type of apparatus. Stem is threaded 6/32″ x ¼″ long. Overall length 1″. Can also be furnished with the threaded portion in various lengths. Also available with the following engraved heads: + —.

No. 1755—Blank.....Price Each $0.55

SPECIAL BINDING POST

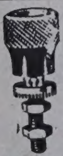
¾″ overall. For use in any chassis where long screws, insulating washers, lugs or any combination of parts may be needed for mounting to Binding Post. Also available with following engraved heads: + —.

No. 1812............Price Each $0.40

HEAVY DUTY ALL METAL BINDING POST

This binding post is all brass with a highly polished nickel finish, overall length 1½″. The diameter of the body and cap ½″. The stem of the post is ¾″ long threaded 10-32. The knurled cap has a receptacle on top which can be used to accommodate standard banana plugs. Hole in body is .136″ diameter to accommodate wire or phone tips. Stem is provided with a tip for soldering.

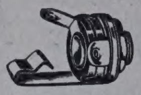
No. 1751............ Price Each $0.60



COMBINATION INSULATED BINDING POSTS PLUG AND TIP JACK TYPE

Accommodates standard banana plugs through the top of post, a standard phone tip through side or, as more ordinarily used, with a wire through side. Suitable for test equipment and laboratory instruments. Standard colors.

No. 143.............Price Each $0.25

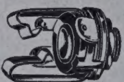


SINGLE JACK

(SC. Type JK-34A)

Made of special brass, heavy nickel plated. Will accommodate phone plugs Signal Corps type PL-55, PL-155 and all standard 2-circuit phone plugs.

No. 1798............Price Each $0.60



DOUBLE JACK

(SC. Type JK-33A)

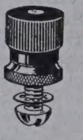
Made of brass, heavy nickel plated and can be used with plugs Signal Corps No. PL-68, PL-168 and all standard 3-circuit plugs.

No. 1799............Price Each $0.75

NON-SEPARABLE HEAD POSTS

Brass nickel plated insert and brass nickel plated washer. The body of the post is drilled for the insertion of a phone tip or a solderless plug. Equipped with a solder insulating washer and a 6/32 nut for mounting. ½″ high and has a ½″ insulated head in red, black, blue, green, yellow, purple and white.

No. 154.............Price Each $0.22



ALL METAL BINDING POST

For high amperage work or for test equipment where low resistance connections are imperative. Nickel plated brass. Approximately 1″ high.

No. 32 Price per C $25.00

METAL BINDING POSTS

Nickel plated brass, supplied with a knurled 6/32″ screw to hold the wire or phone tip in place.

No. 1910 Price per C $10.00

INSULATED BINDING POST

With a ½″ or a ⅜″ diameter head. Identification is made possible by the bright colored head.

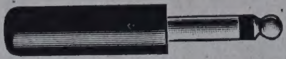
No.	Dia.	Price Each
146...........	½″	...........$0.15
147...........	⅜″	.... .15

BINDING POST HEADS

For use in noise eliminators, vibrators, etc. The heads are knurled and have a threaded portion which eliminates need for a brass insert. The head is completely insulated. Standard colors. .

No.	Dia. of Head	Thread	Price per C
1817.....	⅜″	6/32	.....$6.00
1818.....	½″	8/32	..... 8.00
1819.....	⅝″	10/32	..... 9.00

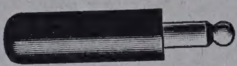
PL-55 PLUG



PL-55 is standard telephone plug made in novel manner by molding internal insulation. A tenite shell serves as insulated handle. Ample accommodations for cordage serving on rear end. Distance from shoulder to center of ball contact is 1″. Overall length of plug 2-13/16″, handle 2⅝″ long. Withstands breakdown of 1000 volts.

No. 1782............Price Each $1.35

PL-54 PLUG



PL-54 is shorter, made to mate with JK-26 jack. Overall length 2-7/16″. Otherwise has same features as PL-55.

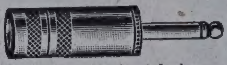
No. 1781............Price Each $1.35

JK-26 MATE OF PL-54

Overall length 2⅞″. Diameter of insulated shell ½″. Three-leaf reinforced spring of spring temper phosphor bronze, mounted on a sturdy brass body. Bakelite sheet insulation 1/16″ thick. Two tinned lugs. Withstands 1000 volts A.C. breakdown across terminals.

No. 1783............Price Each $1.25

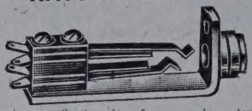
NAVY TYPE PLUG



Standard two-circuit telephone plug, heavy duty type, all brass except for insulation Terminals made to accommodate either phone tips or wire. Barrel has insulating sleeve. Rubber retaining ring in cap at rear end holds cable firmly. Overall length approximately 3″. Barrel diameter 11/16″. Length of barrel 1⅞″. Plug withstands voltage breakdown of 500 volts A.C. between terminals. Fits into standard ¼″ diameter jacks of long-frame two-circuit type.

No. 1784............Price Each $1.45

NAVY TYPE JACK



A sturdy 2-circuit, four spring type, long-frame, telephone jack. Brass frame, ⅛″ thick, ½″ wide. Heavily insulated between contacts and between frame and contacts. Mounts in a panel with ⅜″ diameter hole. Three brass washers of different thicknesses 1/32″, 3/32″ and 5/32″ allow mounting on panels of various thicknesses. Contact springs have tinned lug ends for soldering

No 1785............Price Each $0.70

MIDGET PHONE JACKS

J-670—Open circuit jack midget type. Sturdy phosphor bronze spring. Heavily insulated 1/16″ thick bakelite. Mounts in ⅜″ hole in panels up to ¼″ thick. Ground connection through lug forms part of the frame. All parts but spring and insulation of brass.

No. 1795............Price Each $0.40

DOUBLE JACKS

J-671—Same features as 1795 except it is 3-circuit microphone jack.

No. 1796............Price Each $0.50

PHONE PLUG

For use with all standard size jacks; bakelite shell, available in a variety of solid colors. Will accommodate two phone cord tips or lugs which are held securely in place with two binding head screws.

No. 128.............Price Each $0.50

SHIELDED PHONE PLUG

Designed for use with all standard size jacks. Brass finished with a heavy chrome plating. The barrel contains an insulating tube to prevent any possible loose strands of wire from shorting against the barrel. Accommodates two phone cord tips or lugs which are held securely in place with two binding head screws.

No.	Type	Price Each
218	—Shielded phone plug........	$0.85

JUNIOR SHIELDED PHONE PLUG

Barrel contains an insulating tube which prevents any possibility of loose strands of wire shorting. Accommodates two phone cord tips or lugs which are held securely in place with two binding head screws. Overall length 2⅛″. Fits all standard size jacks.

No.	Type	Price Each
219	—Phone plug	$0.60
1791	—Barrel only	.30

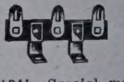
SELF TAPPING SCREWS
ASSORTED LENGTHS
ASSORTED SIZES

SELF-TAPPING SCREW ASSORTMENT

Parker Kalon self-tapping screw assortment of most popular sizes. Genuine replacements for ALL standard brand receivers.

No. 1078............Price Each $0.65

BRACKET TYPE LUG STRIPS

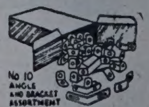


No.	Type	Price per C
1620	—3 lug....	$15.00
1621	—4 lug....	16.50
1622	—5 lug....	20.00
1623	—6 lug....	25.00
1841	—Special mounting bracket.	2.00
1839	—Mounting bracket and lug combination	2.25

Available with No. 1841 Bracket as illustrated or with No. 1839 Bracket, which is a combination bracket and mounting lug or with No. 1847 Bracket which is similar to No. 1839, but with a tapped 6/32 hole.

No.	Type	Price per C
1660	—3 lug with 1839 Bracket..	16.50
1661	—4 lug with 1839 Bracket..	19.50
1662	—5 lug with 1839 Bracket..	24.00
1663	—6 lug with 1839 Bracket..	27.00
1664	—3 lug with 1847 Bracket..	22.00
1665	—4 lug with 1847 Bracket..	22.00
1666	—5 lug with 1847 Bracket..	26.00
1667	—6 lug with 1847 Bracket..	34.00
1847	—Bracket and lug with tapped 6/32 hole........	4.50

ANGLE AND BRACKET ASSORTMENT



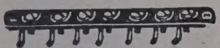
28 popular size angles and brackets made of brass and nickel plated. A choice selection of "Z" included. Indispensable for mounting radio parts.

No. 488-10..............Price $0.70

RADIO ESSENTIALS, INC. EXCLUSIVE DISTRIBUTORS OF ARHCo TO THE RADIO PARTS JOBBERS

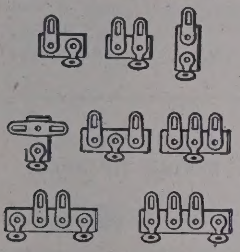
AMERICAN RADIO HARDWARE CO., INC.

BAKELITE TERMINAL STRIPS AND TERMINALS



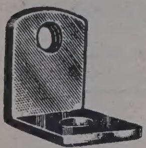
No.	Type	Price Each
1501—2	Term. Marked	$0.25
1502—2	Term. Plain	.20
1503—2	Term. A. & G.	.25
1504—2	Term. "Output"	.25
1505—2	Term. "Input"	.25
1506—3	Term. Plain	.30
1507—3	Term. Marked	.35
1508—4	Term. Marked	.50
1509—4	Term. Plain	.45

TERMINAL LUG STRIPS



No.	Price per C
5101	$2.00
5110	2.15
512	1.65
501	1.65
5201	3.00
5210	3.25
5202	4.00
5211	4.50

SPECIAL ANGLE BRACKETS WITH TAPPED HOLES



No.	Type	Price per C
1627	½" x ½" Bracket	$4.50
1628	½" x ⅝" Bracket	5.00
1629	½" x ¾" Bracket	6.00
2663	Z Bracket Type with no clearance hole—one tapped hole ½" x ⅜" Bend x 7/16" long	6.00

RACK SCREWS

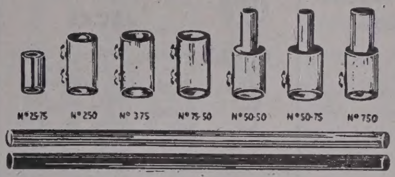
Particularly suitable for mounting panels in racks and cabinets. Enhances appearance of any panel. Screws, steel nickel plated.

No.	Size	Price per M
1641	¼" x 6/32	$4.50
1642	½" x 6/32	4.75
1643	¾" x 6/32	5.50
1644	1" x 6/32	6.00
1637	¼" x 8/32	4.75
1638	½" x 8/32	5.50
1639	¾" x 8/32	6.00
1640	1" x 8/32	6.50
1630	¼" x 10/32	6.00
1631	½" x 10/32	6.50
1645	⅝" x 10/32	7.00
1632	¾" x 10/32	7.50

WASHERS

No.	Size	Price per M
1634	6/32 Cup Washer	$5.50
1635	8/32 Cup Washer	6.00
1636	10/32 Cup Washer	7.00

SHAFT COUPLINGS EXTENDERS AND REDUCERS

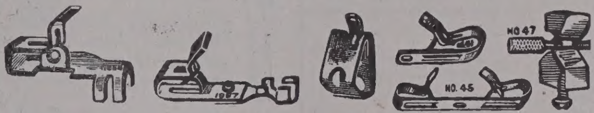


These accurate machined brass fittings can be used for coupling shafts of the same or different diameter, for straight extension, or for extension with smaller or larger shaft diameter.

No.	Length		Price Each
25-75	7/16"	¼" Hole I.D.—⅜" O.D. Dial Bushings	$0.10
250	¾"	¼" Hole I.D.—½" O.D. Brass Coupling	.20
375	¾"	⅜" Hole I.D.—9/16" O.D. Brass Coupling	.20
75-50	¾"	⅜"-¼" Hole I.D.—9/16" O.D. Brass Coupling	.20
50-50	1⅛"	¼" Hole I.D.—½" O.D. Brass Reducer	.20
50-75	1⅛"	⅜" Hole I.D.—9/16" O.D. Brass Reducer	.20
750	1⅛"	¼" Hole I.D.—½" O.D. Brass Reducer	.20
6250	6"	¼" Diameter Brass Shafting	.20
12250	12"	¼" Diameter Brass Shafting	.40
388	8"	⅜" Diameter Brass Shafting	.40
250C	¾"	¼" Hole I.D.—½" O.D. Ins. Coupling	.20
375C	¾"	⅜" Hole I.D.—9/16" O.D. Ins. Coupling	.20
75-50C	¾"	⅜"-¼" Hole I.D.—9/16" O.D. Ins. Coupling	.20
50-50C	1⅛"	¼" Hole I.D.—½" O.D. Ins. Reducer	.20
50-75C	1⅛"	⅜" Hole I.D.—9/16" O.D. Ins. Reducer	.20
750C	1⅛"	¼" Hole I.D.—½" O.D. Ins. Reducer	.20
637C	6"	¼" Diameter Insulated Shafting Black	.20
1237C	12"	¼" Diameter Insulated Shafting Black	.30
388C	12"	⅜" Diameter Insulated Shafting Black	.40

FAHNESTOCK SPRING BATTERY CLIPS

A complete line of Fahnestock Clips to meet every demand. Each clip is made of either Phosphor Bronze or Spring Brass assuring maximum life and good contact. Any type Fahnestock Clip available upon request.



No.		Price per C
41	¾" Long 1 Clip	$ 1.65
42	1" Long 1 Clip	2.00
44	1½" Long 2 Clip	9.00
45	1¾" Long 2 Clip	9.00
47	1" High 1 Clip	5.50
1844	1½" Long 1 Clip	12.00
1857	1¾" Long 1 Clip	12.00
1858	1¼" Long, same as 1857	15.00
1853	1" Long 1 Clip	5.50
1826	⅝" Long 1 Clip (Bronze)	2.75

RUBBER GROMMETS

Ideal for Use in All Types of Electrical and Radio Purposes

Available in either black or gum rubber.

No.	Panel Hole	I.D.	O.D.	Panel Thickness	Price per C
1113	13/32	21/64	5/8	1/16	$3.50
1114	1/4	1/8	11/32	1/16	2.25
1115	3/8	1/4	9/16	7/32	3.50
1118	5/16	3/16	7/16	1/16	2.85
1119	13/32	17/64	9/16	1/16	2.85
1120	7/16	19/64	5/8	1/16	3.20
1121	1/2	3/8	11/16	1/16	3.25
1122	11/32	1/4	1/2	1/32	2.80

When ordering Gum Rubber add "G" to number and add $1.00 per C to list price of Black.

RUBBER GROMMET ASS'T

An assortment of 5 sizes of pure gum and black rubber grommets.

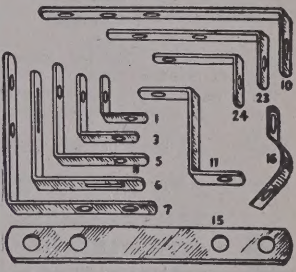
No.		Price
68	Assortment of 12 Rubber Grommets	$0.35
69	Assortment of 30 Rubber Grommets	.75
70	Assortment of 100 Rubber Grommets	2.30

R. H. STEEL CADMIUM PLATED MACHINE SCREWS

6-32			8-32	
No.	Price per M	Length	No.	Price per M
2648	$4.25	¼"	2654	$4.25
2649	4.25	⅜"	2655	5.25
2650	4.50	½"	2656	6.00
2651	4.50	⅝"	2657	6.25
2652	4.75	¾"	2658	6.50
2653	7.00	1"	2659	7.00

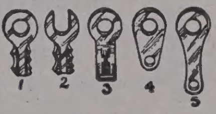
No.	Size	Price per M
2665	10-32 x ¼"	$4.75
2666	10-32 x ⅜"	6.25
2667	10-32 x ½"	6.50
2668	10-32 x ⅝"	7.00
2669	10-32 x ¾"	7.25
2670	10-32 x 1"	8.50

ANGLES AND BRACKETS



No.	Size	Price per C
1	1½"x1½"	$1.50
3	⅝"x⅝"	2.30
5	1"x1"	3.50
6	1⅛"x1⅛"	4.50
7	1½"x1½"	5.50
10	⅝"x2¼"	5.75
11	13/16" high	2.25
15	2⅞" long	4.60
23	½"x1½"	3.10
24	½"x⅞"	2.25

TINNED BRASS LUGS



No.	Length	Hole Size	Price per M
1	⅝"	6 or 8	$4.00
2	⅝"	8	4.00
3	¾"	8	4.00
4	⅝"	6 or 8	4.00
5	⅞"	6 or 8	4.00

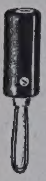
TWIN PHONE TIP JACKS

Jacks in this assembly are our No. 138 type, mounted on a bakelite strip ½" and 2" long. Standard spacing between Jacks ¾". Coded red and black for identification.

No. 406............Price Each $0.35

RADIO ESSENTIALS, INC. EXCLUSIVE DISTRIBUTORS OF ARHCO TO THE RADIO PARTS JOBBERS

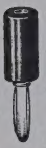
ARHCO AMERICAN RADIO HARDWARE CO., INC.



INSULATED BANANA PLUG

Set screw in side of barrel secures wire within plug without soldering. Full length center pin prevents spring from collapsing. Standard colors.

No.	Sleeve	Overall	Price Each
131	⅞"	1⅝"	$0.20
131A	1½"	2¼"	.25

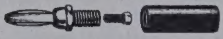


SPLIT TYPE BANANA PLUG

Designed to snugly fit a standard type banana jack. Spring action is positive and durable. Length 1-7/16". The plug is ½" long. Standard colors.

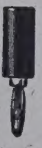
No. 331.............Price Each $0.20

SOLDERLESS BANANA PLUGS



Made with three-pointed leaf spring; screw into insulated portion of plug. Overall length 1⅞". All standard colors.

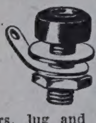
No. 207.............Price Each $0.25



ARCHOITE-SOLDER-LESS INSULATED BANANA PLUG

All external set screws are eliminated, removing possibility of shocks or grounding. One - piece phosphor bronze spring and full length center pin assure good contact and long life. ARHCOITE barrel is ¾" long. ⅜" diameter. Standard colors.

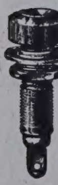
No. 332.............Price Each $0.20



INSULATED BANANA JACKS

Equipped with insulated shoulder washers, lug and a nut. Can be mounted in a ¼" hole on a panel up to ⅜" in thickness. Standard colors.

No. 136.............Price Each $0.15

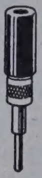


BANANA PLUG OR TIP JACK

So constructed that either phone tip or banana plugs fit interchangeably. Cap of ARHCOITE insulation, in standard colors. Mounts in a ¼" diameter hole in panels up to ½" thick. With shoulder washer and nut. Overall length is 1⅜".

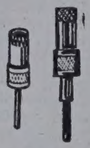
No. 148.............Price Each $0.20

INSULATED SOLDERLESS PHONE TIP PLUG



Fits all standard tip jacks including such units as our No. 137, 138 Insulated Jacks, and No. 143 Binding Posts. Overall length is 1⅞", sleeve is ¾" long. All standard colors.

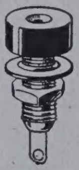
No.	Price Each
141	$0.18
142	.15



SOLDERLESS PHONE TIPS

So made that a wire fits through the body and is wrapped around the screw and tightened with the nut.

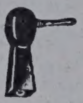
No.	Price per C
10—1⅝" in length	$10.00
9—1⅛" in length	10.00



INSULATED PHONE TIP JACKS

Accommodates all standard phone tips. Phosphor bronze springs make positive contact and hold phone tip straight and secure. Insulating washer and nut. Standard colors.

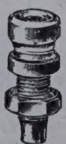
No.	Head	Price Each
1866	3/8"	$0.14
138	7/16"	.15
1861	1/2"	.16



STREAMLINED PHONE TIP PLUG

The highly polished ARHCOITE handles are made to fit a standard non-insulated or insulated phone tip jack. By inserting the wire in the hole and screwing the tip in securely, a solid, solderless connection is made. 1⅜" long and ½" high.

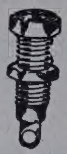
No. 1855...........Price Each $0.40



INSULATED BANANA PLUG JACK

For use with all our standard size Banana Plugs. The insulated head has a shoulder which extends into the mounting hole thus centering the jacks and preventing grounds. Mounts in 5/16" diameter hole. Can be used in panels up to ⅝" thick. Complete with second shoulder washer and nut. The overall length is ⅞". Available in all standard colors.

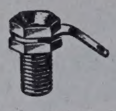
No. 336............Price Each $0.20



PHONE TIP JACKS

Specially designed springs within the body hold the phone tips straight and grip firmly at all times. Mounts in a ¼" diameter hole in panels up to ⅜" thick.

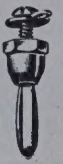
No. 137...........Price per C $10.00



BANANA TYPE PLUG JACK

Recommended for use with No. 1150 Banana Plug. Countersunk to fit tapered portion of plug shank. Heavily nickel plated and furnished with nuts and soldering lug. Will fit panels up to 7/16" thick and mounts in ¼" hole.

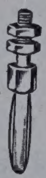
No. 1151.........Price per C $12.00



BANANA TYPE PLUG

6/32" female thread and 6/32" screw and soldering lug. One piece phosphor bronze spring assures positive, long lasting contact. Full length center pin prevents plug from collapsing when misaligned with jack.

No. 1150.........Price per C $12.00

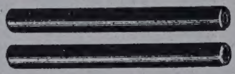


BANANA TYPE PLUGS

Spring brass, nickel plated. Full length center pin prevents spring from collapsing. Supplied with two plated nuts.

No.	Thread	Price per C
120	6/32—½" long	$12.00
1764	6/32—1" long	15.00
122	8/32—½" long	12.00

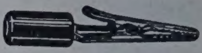
FIBRE NEUTRALIZING TUBES



These tubes are made of specially treated hard fibre for durability. They are ideal for servicemen and production lines, for when the hexagon wears out it can be cut off and used again.

No.		Price Each
¼" HEXAGON		
2502— 6"	long	$0.30
2503— 8"	long	.35
2504—10"	long	.45
2505—12"	long	.50
2506—28"	long	1.00
5/16" HEXAGON		
2507— 6"	long	$0.30
2508— 8"	long	.35
2509—10"	long	.45
2510—12"	long	.50
2511—28"	long	1.00

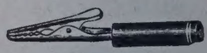
ALLIGATOR CLIP COMBINATION JACK



Embodies our No. 129 insulated alligator clip and No. 148 insulated phone tip jack. It is possible to insert any test prod equipped with phone tips, directly into Alligator Clip for temporary connection to any part or wire of radio receivers, public address systems, or electrical appliances, leaving the other test lead and both hands free to test any part of the circuit. Overall length 2⅜". Length of insulated handle 1". All standard colors.

No. 338............Price Each $0.50

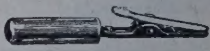
ALLIGATOR CLIP PHONE TIP JACK



Incorporates our No. 129 insulated alligator clip and No. 138 insulated phone tip jack. It is possible to insert any test prod, equipped with phone tips, directly into the Alligator Clip for a temporary connection to any part or wire of radio receivers, public address systems or electrical appliances, leaving the other test lead and both hands free to test any part of the circuit. Overall length 2⅜". Insulated handle 1". All standard colors.

No. 337.............Price Each $0.45

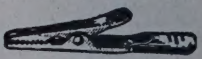
INSULATED ALLIGATOR CLIPS



No. 130 Clips are made so that the attached ARHCOITE handle will receive any male banana type plugs. No. 129 has a round ARHCOITE handle and is made for wire assembly. No. 152 Clip is similar to the No. 130 but larger.

No.	Handle	Overall	Price Each
129	1¼"	2¾"	$0.22
130	¾"	2¼"	.20
152	1¼"	3¼"	.25

ALLIGATOR CLIPS

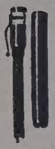


For use in all types of testing equipment; designed with a long thin nose to fit into confined areas and hard to get at places. Steel or brass, nickel plated.

No.	Price per C
STEEL	
45AT—2" long	$10.00
242—2¾" long	12.00
BRASS	
80—2" long	$12.00
84—2¾" long	17.50

ARHCO AMERICAN RADIO HARDWARE CO., INC.

FIBRE NEUTRALIZING TOOLS



3 in 1 combination. A ¼″ diameter screw driver on the inside and ¼″ and 5/16″ sockets at each end of the tool. Completely insulated

No. 2501............Price Each $0.85

NEUTRALIZING TOOLS METAL TIPS

With brass nickel plated metal tip at both ends. Metal tips are hexagon broached for ¼″ and 5/16″ nuts. Screw driver inside is 7/32″ diameter to fit inside of coils for compensating. 3 in 1 combination.

No. 2500............Price Each $1.25

TEST PRODS Solderless Type

Designed so that the phone tip screws right into the handle itself. Handles in various lengths made in ARHCOITE.

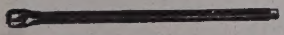
No.	Handle Overall	Price Each
145	5″	$0.40
149	6¾″	.45

Phonographic Needle Type

These test prod handles are standard photograph needles to fit into the chuck. Can be tightened with nut.

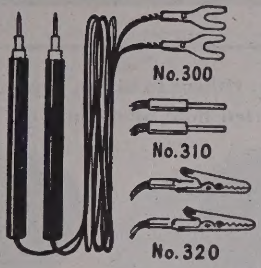
No.	Handle	Overall	Price Each
153	3½″	4¾″	$0.40
155	4″	5⅛″	.45

SOCKET HEAD ALIGNMENT WRENCH



6″ long with a brass ¼″ socket head that fits over trimmer screws on various types of receivers. Outside diameter is ⅜″. Has a hardened screw driver bit for adjusting trimmer screws. Insulated diameter shaft fits ¼″ holder. Available in assorted colors.

No. 820............Price Each $0.70



HEAVY DUTY TEST PRODS

For rough usage in production testing lines and large service shops. ARHCOITE prod handles, 7/16″ diameter and 5″ long. Prods equipped with 60″ heavy duty flexible wire; choice of attachments. Handles and leads are colored red and black for identification.

No.	Type	Price per Pair
300	Taper lugs	$1.25
310	Phone tips	1.25
320	Alligator clips	1.35

PENCIL TYPE SHARP POINT TEST PRODS

Long and thin, ideal for testing in tight places in receivers and amplifiers Handles and 60″ leads Overall length 7″, diameter ¼″.

No.	Type	Price per Pair
330	Spade lugs	$1.15
340	Phone tips	1.15
350	Alligator clips	1.25

TEST PRODS Solderless Tip Type

Test leads run through prod handles into tip where connection is securely made by means of a knurled collar. Fibre handles and leads colored red and black for identification. Handles are four inches long and ⅜″ diameter. Wire length 50″.

No.	Type	Price per Pair
210	Spade lugs	$0.85
200	Phone tips	.85
260	Alligator clips	1.00

Phono Needle Tip Type

Prod handles are equipped with chucks for securely holding standard phonograph needles, which are quickly replaceable. Fibre handles and leads are colored red and black for identification. Handles are 4″ long and ⅜″ in diameter. Wire length 50″.

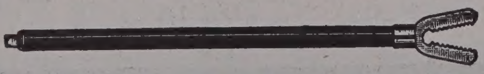
No.	Type	Price per Pair
230	Phone tips	$0.85
240	Spade lugs	.85
259	Alligator clips	.95

ALLIGATOR CLIP TEST LEADS

Made with Alligator Clips at each end and red and black flexible wire for easy identification. Ideal as temporary connections. Clips have a firm grip and will make a perfect contact at all times.

No.	Wire Length	Price per Pair
400	12″	$0.60
420	24″	.70
430	36″	.80
440	48″	.90

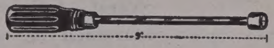
ALLIGATOR ALIGNMENT WRENCH



Fits various sizes of knurled or hexagon nuts up to ⅜″ diameter. Has hardened screw driver on the other end for adjusting trimmer screws. Overall length is 6″ and diameter of shaft is ¼″. Assorted colors.

No. 805............Price Each $0.70

SOCKET WRENCHES Spin Type



Made with a deep hollow hole in the end of socket. Takes a long screw any size up to No. 10 diameter. Wooden handle for firm grip and the socket is hardened for durability and service.

No.	Hex. Nut Size	Price Each
	(6″ LONG)	
48	3/16″	$0.40
50	1/4″	.40
51	5/16″	.40
52	3/8″	.40
53	7/16″	.40
49	1/2″	.40
	(9″ LONG)	
58	3/16″	.45
54	1/4″	.45
55	5/16″	.45
56	3/8″	.45
57	7/16″	.45
59	1/2″	.45

660—Box of six 6″ wrenches—one of each size........... 2.40

690—Box of six 9″ wrenches—one of each size........... 2.70

Offset Type

Ideal for inconvenient places and for tightening up nuts under condensers, transformers, or sub-panels.

No.	Length	Hex. Nut Size	Price Each
106	7″	3/16″	$0.45
107	7″	1/4″	.45
108	7″	5/16″	.45
109	7″	3/8″	.45
110	7″	7/16″	.45
111	7″	1/2″	.45

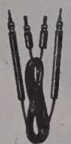
670—Box of 6 7″ wrenches...... 2.70

FIBRITE ALIGNMENT SCREW DRIVER

Designed to work satisfactorily on all ultra-high frequency ranges without disturbing the circuit. Overall length is 7″.

No.	Diameter	Length	Price Each
815	7/32″	7″	$0.50
817	5/16″	6″	.70

SOLDERLESS TEST PRODS



Used extensively in the service shop or laboratory. ARHCOITE handles in red and black for identification. Leads and phone tip plugs are also color coated. Wire easily replaced without soldering.

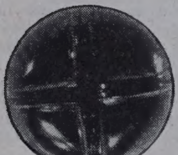
No.	Handle Length	Price per Pair
220	4″	$1.25
450	5½″	1.50
460	7″	1.75

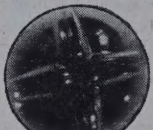
RADIO ESSENTIALS, INC. EXCLUSIVE DISTRIBUTORS OF ARHCO TO THE RADIO PARTS JOBBERS

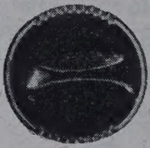
New York Office — **JOHN M. FORSHAY** — *27 Park Place, New York 7*
Canadian Office — **ATLAS RADIO CO.** — *560 King Street W., Toronto 2*

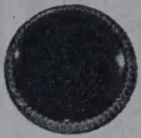
KNOBS by DAVIES

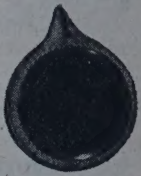
Standard Colors: Black, Walnut, Red or Ivory. Others to order. Quality Radio Knobs for standard ¼″ shaft. Set screw, spring, or knurled hole mounting, or ¼″ brass bushing.

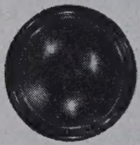

No. 2600
Hgt. 7/8″
Dia. 7/8″

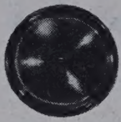

No. 2500
Hgt. 3/4″
Dia. 3/4″

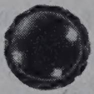

No. 1700
19/32″ High.
3/4″ Dia.


No. 1450
Hgt. 13/32″
Dia. 11/16″

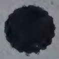

No. 1400
Hgt. 13/32″
Dia. 11/16″

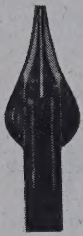

No. 1020
Hgt. 25/32″
Dia. 1-3/8″

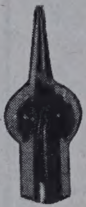

No. 1021
Hgt. 21/32″
Dia. 1-1/8″

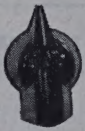

No. 2965
Dia. ⅞″
Hgt. from ½″

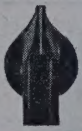
No. 1760
Dia. 31/64″
Hgt. 9/16″


No. 1790
Recessed top,
Dia. ½″ approx
Hgt. 1″

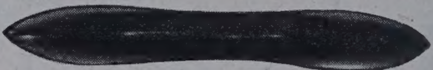

No. 2250
Size 2¼″

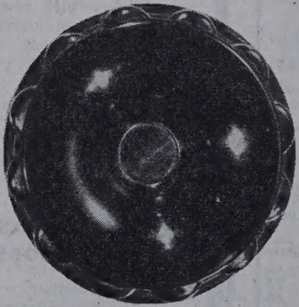

No. 2350
Length 2″.

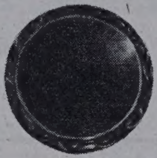

No. 2300
Length 1¼″.

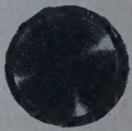

No. 2150
Size 1¼″.

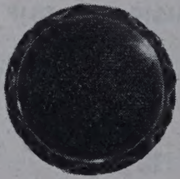
No. 1800
Dia. 7/16″
Hgt. 1″

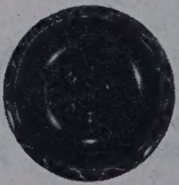

No. 4500 Pull
Hgt. 1-1/16″
Length 4-1/4″


No. 5247
Dia. 3″
Hgt. 1-3/8″


No. 3009
Dia. 1-1/2″
Hgt. 3/4″


No. 3008
Dia. 1-1/4″
Hgt. 3/4″


No. 3000
Dia. 1¾″
Hgt. ¾″


No. 3015
Dia. 1-3/4″
Hgt. 3/4″

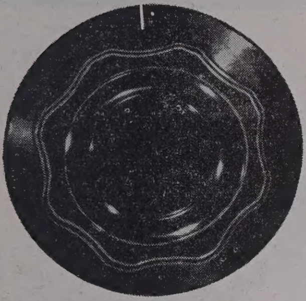
Harry Davies Molding Co.

1428 NORTH WELLS STREET • CHICAGO 10, ILL.

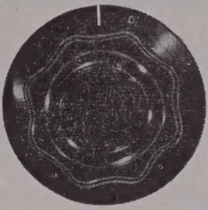
• *Molders of* • *Plastics*

KNOBS by DAVIES

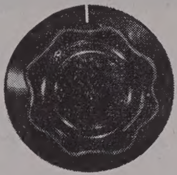
Standard Colors: Black, Walnut, Red or Ivory. Others to order. Quality Radio Knobs for standard ¼″ shaft. Set screw, spring, or knurled hole mounting, or ¼″ brass bushing.



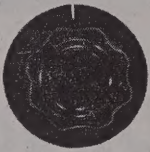
No. 4109
Knob width—2⅜″
Total height—1 1/32″



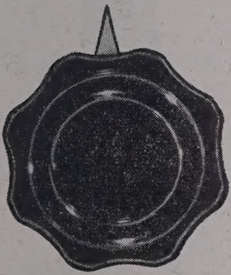
No. 4108
Knob width—1⅝″
Total height—29/32″



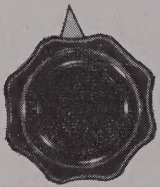
No. 4106
Knob width—1⅜″
Total height—⅞″



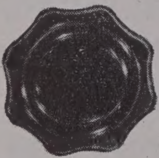
No. 4104
Knob width—1⅛″
Total height—13/16″



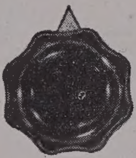
No. 4103-P
Knob width—2⅜″
Total height—⅞″



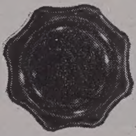
No. 4102-P
Knob width—1⅝″
Total height—¾″



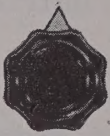
No. 4102
Knob width—1⅝″
Total height—¾″



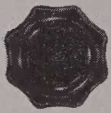
No. 4101-P
Knob width—1⅜″
Total height— 11/16″



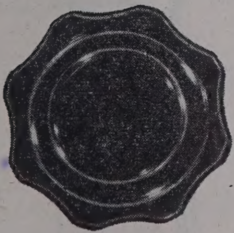
No. 4101
Knob width—1⅜″
Total height— 11/16″



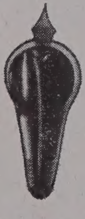
No. 4100-P
Knob width—1⅛″
Total height—⅝″



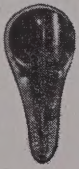
No. 4100
Knob width—1⅛″
Total height—⅝″



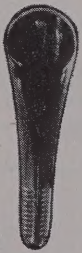
No. 4103
Knob width—2⅜″
Total height—⅞″



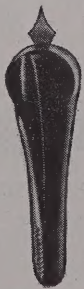
No. 2110-P
1-7/8″ Long
11/16″ Dia.
19/32″ High.



No. 2110
1-5/8″ Long
11/16″ Dia.
19/32″ High.



No. 2100
2-1/2″ Long
11/16″ Dia.
5/8″ High.



No. 2100P
2-3/4″ Long Overall
5/8″ High. 11/16″ Dia.
Metal Insert. Metal Pointer.

Harry Davies Molding Co.

1428 NORTH WELLS STREET • CHICAGO 10, ILL.

• Molders of • Plastics

Ungar Electric Tools, Inc.

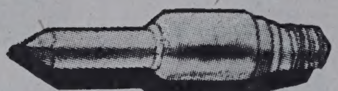
Formerly Harry A. Ungar, Inc.

LOS ANGELES 54, CALIF.

Manufacturers of

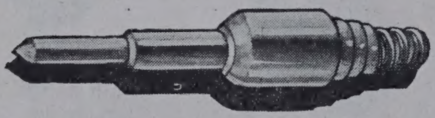
Ungar Electric Soldering Pencil

Designed for delicate precision work on intricate, hard-to-reach soldering jobs.



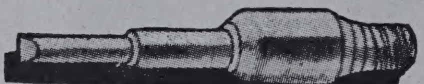
No. 536—Pyramid Tip . . . made from hard drawn copper.

List **$0.85**



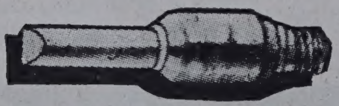
No. 537—Tip . . .made from Elkaloy A. Tip ⅛″ diameter.

List **$1.00**



No. 538—Chisel Tip . . . made from Elkaloy A. Tip ⅛″ diameter.

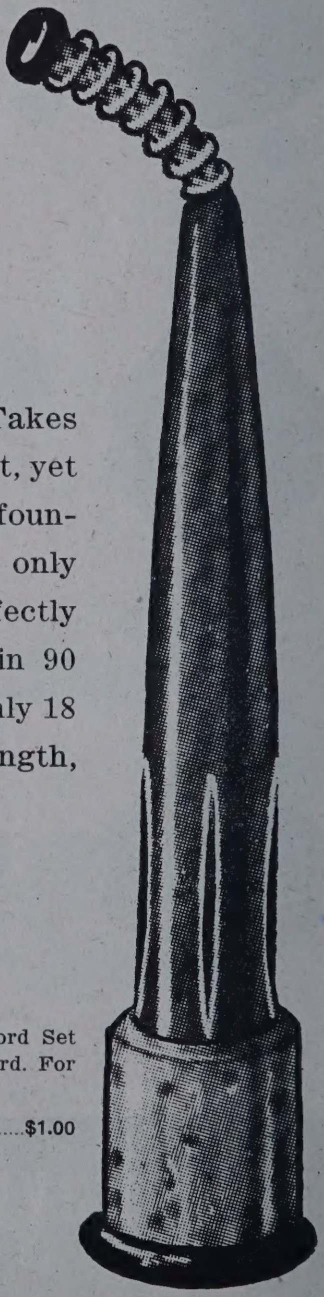
List **$1.00**



No. 539—Tip (Extra Hot) . . . made from Tellurium.

List **$1.00**

Ruggedly built. Takes plenty punishment, yet handles like a fountain pen. Weighs only 3.6 ounces. Perfectly balanced. Heats in 90 seconds, draws only 18 watts. Overall length, 7 inches.



No. 776—Handle Cord Set . . . Plastic, 6-ft. cord. For all tips.

List **$1.00**

(Discounts: 1 to 11—20%; 12 or more—35%)

GENERAL G-C CEMENT Radio Cements

G-C RADIO SERVICE SOLVENT

"CLEANS AND DISSOLVES"

Specially prepared for loosening cement on speaker cones, etc. Is also used as a thinner for G-C Service Cement.

12 to display

No.		List Price
31-2	2 oz. bottle	$0.35
31-4	4 oz. bottle	.50
31-6	6 oz. economy bottle	.65
31-8	8 oz. economy bottle	.75
31-16	1 pt. economy bottle	1.25
31-32	Quart	2.45
31-G	1 Gallon	5.00
31-5G	5 Gallons	23.25

RADIO SERVICE SOLVENT

G-C RADIO SERVICE CEMENT

The Best Cement for Speaker and Radio Work. Especially suitable for cementing replacement cones and repairing rattling and torn cones. Also used on glass, to seal adjustments, hold wires in place, etc. Dependable, Vibration-Proof, Waterproof, and Fast-Drying.

12 to display

No.		List Price
30-0	½ oz. bottle	$0.20
30-2	2 oz. bottle, brush attached to cap	.50
30-4	4 oz. economy bottle	.90
30-6	6 oz. economy bottle	1.25
30-8	8 oz. economy bottle	1.60
30-16	1 pt. bottle	3.00
30-32	Quart	5.75
30-G	1 Gallon	9.35
30-5G	5 Gallons	42.00

RADIO SERVICE CEMENT

New Type Wide Mouth Bottle

G-C CEMENT THINNER

This thinner is made of same solvents as G-C Service Cement and makes the best thinner for thinning all cements.

No.	Size	List Price
No. 28-2	2 oz.	$0.35
No. 28-4	4 oz.	.50
No. 28-8	8 oz.	.75
No. 28-16	16 oz.	1.25
No. 28-32	32 oz.	2.45
No. 28-G	1 Gal.	5.00
No. 28-5G	5 Gal.	23.25

Radio CEMENT THINNER

G-C ALL-PURPOSE CEMENT

Fast drying cement suitable for many uses. Excellent "Household Cement". Also an ideal "model-makers" cement for use on model airplanes, ships, toys, etc.

No.		List Price
No. 45-2	2 oz.	$0.42

GENERAL CEMENT

G-C FILM SPLICING CEMENT

High quality fast drying Cement specially prepared for splicing movie camera film.

No.	List Price
33-1—1 oz. size	$0.25
33-2—2 oz. size	.45

FILM CEMENT

G-C P-X PLASTIC ADHERING CEMENT

Cements station call tabs to Push Buttons and escutcheons. Keeps them from getting lost! Ideal for cementing paper, cloth, leather, etc. to plastics.

No.	List Price
44-1—1 oz.	$0.42

G-C GRILLE CLOTH FABRIC CEMENT

For cementing grill cloth, aeroplane luggage fabric, leather, etc. to wood radio cases, test equipment and cabinets.

No.		List Price
38-4	4 oz.	$0.42
38-8	8 oz.	.75
38-16	Pint	1.25

GRILLE CLOTH FABRIC CEMENT

G-C CEMENT AND SOLVENT KIT

Kit consists of 1 bottle of our famous Service Cement, and 1 bottle of Service Solvent. Handy Kit to carry with you.

No.	List Price
343	$0.50

G-C BAKELITE CEMENT

Prepared for cementing Bakelite to Bakelite or Bakelite to other materials. Useful for broken knobs, molded cabinets, etc. 12 to display.

No.		List Price
32-2	2 oz. bottle	$0.55
32-8	Half Pint	1.25
32-16	Pint	2.25
32-32	Quart	4.25
32-G	1 Gallon	12.50
32-5G	5 Gallons	61.25

B-K BAKELITE CEMENT

G-C WOOD CABINET GLUE

Best quality wood glue for repairing cabinets. Strong and fast drying. Will not injure cabinet finish.

No.		List Price
39-2	2 oz. bottle with brush	$0.35
39-4	4 oz.	.42
39-8	8 oz.	.75
39-16	Pint	1.25

G-C RUBBER CEMENT

Best quality general purpose rubber cement for cloth, paper, rubber, etc. A necessity in every shop.

No.		List Price
23-4	4 oz.	$0.42
23-8	8 oz.	.75
23-16	Pint	1.25

RUBBER CEMENT

General Cement Mfg. Co. is the leading Manufacturer of Radio Cements, Chemicals, Coil Dopes and Compounds for all Radio and Electronic uses.

Cements and Compounds are available in any quantity from small bottles to drums.

G-C SPEAKER REPAIR CEMENT IN TUBES

This is our regular service cement put up in a handy tube. Makes a good, general-purpose, waterproof glue. Also useful for speakers, cones, coils, etc.

12 to display

No.	List Price
34-2—Large Size	$0.42

Radio Cement
50
SPEAKER REPAIRS

G-C PLASTIC CEMENT

Best grade pyroxilyn cement for cementing all types of plastics. Excellent for cementing broken cabinets, knobs, etc.

No.	Size	List Price
No. 32-2A	2 oz.	$0.55
No. 32-8A	8 oz.	1.25
No. 32-16A	16 oz.	2.25
No. 32-32A	32 oz.	4.25
No. 32-GA	1 Gal.	10.00
No. 32-5GA	5 Gal.	48.00

PLASTIC CEMENT

G-C RUBBER TO METAL CEMENT

Specially prepared for cementing Rubber dial drives to metal shafts, rubber mountings to chassis, or for cementing any rubber material to metal.

No.		List Price
35-0	½ oz.	$0.20
35-1	1 oz.	.42
35-2	2 oz. bot. with brush	.50
35-4	4 oz.	.90
35-8	8 oz.	1.60
35-16	16 oz.	3.00
35-32	32 oz.	4.50
35-G	1 Gallon	9.35
35-5G	5 Gallons	42.00

RUBBER TO METAL CEMENT

G-C FABRIC TO METAL CEMENT

For cementing cloth and felt to metal. Ideal for cementing felt to phono turntables, grille cloth to metal cases, etc. Brush attached to cap.

No.		List Price
22-4	4 oz.	$0.42
22-8	8 oz.	.75
22-16	Pint	1.25

FABRIC TO METAL CEMENT

G-C DIAL DRIVE CEMENT

FOR CEMENTING RUBBER TO METAL

Specially prepared for cementing Rubber dial drives to metal shafts, rubber mountings to chassis, or for cementing any rubber material to metal.

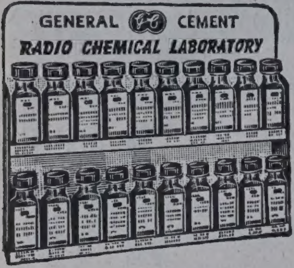
No.		List Price
35-0	½ oz.	$0.20
35-1	1 oz.	.42
35-2	2 oz.	.50

DIAL DRIVE CEMENT

GENERAL G-C CEMENT Radio Chemicals

G-C RADIO CHEMICAL LABORATORY

"Use G-C Chemicals for Radio Repairs and Save Time"



Here is a real professional Radio Chemical Laboratory that is complete in every respect. Twenty large 2 oz. bottles put up in permanent laboratory stand that can be placed on your bench or hung up on the wall. The stand is a permanent rack to hold all your Radio Service Chemicals and find them when you need them. Every needed chemical and cement is included in this Laboratory for all kinds of Radio Repairs, speakers, coils, contacts, dials, controls, etc. Every Radio Man, Radio Laboratory, Radio Engineer, and Radio Manufacturer should all have this complete Laboratory.

	List Price
No. 997 G-C Chemical Laboratory	$8.17

No. 997 Radio Chemical Laboratory contains the following Radjo Chemicals in large wide mouth 2 oz. bottles

(2 oz. bottles)

Cat. No.		List Price
30-2	Service Cement	$0.50
31-2	Service Solvent	.35
32-2	BK Cement	.55
35-2	Rubber to Metal Cement	.50
36-2	Liquidope	.35
37-2	Q-Dope	.35
39-2	Wood Glue	.35
45-2	General Purpose Cement	.42
56-2	Insulating Varnish	.35

Cat. No.		List Price
917	Scratch Liquid	$0.35
1201	Non-Stick Iron Tip Compound	.35
1202	Grafoline	.35
1205	Carbon-X	.75
1209	Lube-Rex	.50
1210	Non-Slip Compound	.30
1214	Contact Dope	.50
1215	Liquid Non-Slip	.35
1247	Dial Oil	.30
12/-2	Contact Cleaner	.30
161-2	Varnish Stain	.50

Refills are available at the above prices.
Jobbers cartons 12 each to carton

G-C CONTACT & CRYSTAL CLEANER

CONTACT AND CRYSTAL CLEANER

Specially prepared for cleaning contacts and crystals. Cleans easily and will not injure delicate parts, crystals, etc. "Hams" and Radio Men will appreciate this item.

		List Price
127-0	½ oz.	$0.20
127-2	2 oz.	.30
127-4	4 oz.	.50
127-8	8 oz.	.75
127-16	Pint	1.10

NEW G-C ELECTRONIC CONTACT CLEANER

"Improved red color contact cleaner made with G-C Lube-Rex"

Electronic CONTACT CLEANER

Special cleaner which cleans fast and dries fast. On drying it leaves a protective film of G-C Lube-Rex on the contact without affecting electrical characteristics.

	Size	List Price
No. 210-0	½ oz.	$0.20
No. 210-2	2 oz.	.35
No. 210-4	4 oz.	.50
No. 210-8	8 oz.	.85
No. 210-16	16 oz.	1.65
No. 210-32	32 oz.	3.00
No. 210-G	1 Gal.	7.50

G-C GRAFOLINE

Specially made for noisy controls, switches, and wire wound controls. Will eliminate noises on controls and contacts and on tube prongs.

12 to display

	List Price
No. 120-2 — 2 oz.	$ .35
No. 120-16—pint	2.00

G-C LIQUIDOPE

"Genuine All-Wave Coil Dope"

Ideal coil dope for all-wave coil windings. Clear and fast-drying. Gives coils a tough protective film that insures firmness and prevents characteristic changes due to weather.

12 to display

No.		List Price
36-2	2 oz. bot.	$ .35
36-8	½ pt.	1.05
36-16	Pint	2.00
36-32	1 Quart	3.75
36-G	1 Gallon	9.35
36-5G	5 Gallons	42.00

G-C CARBON TETRA-CHLORIDE

For Cleaning Electrical Controls and Contacts.

CARBON TETRA-CHLORIDE

	Size	List Price
No. 211-2	2 oz.	$0.50
No. 211-4	4 oz.	.90
No. 211-8	8 oz.	1.60
No. 211-16	16 oz.	2.50
No. 211-32	32 oz.	3.50
No. 211-G	1 Gal.	9.00

G-C CONTACT DOPE

CONTACT DOPE

Ideal contact cleaner for electronic switches, controls and contacts. Specially prepared to resist corrosion and oxidation on contacts. Eliminates noise on switches and contacts.

	List Price
No. 1214—2 oz. Bottle	$0.50

G-C LUBE-REX "LUBRIPLATE"

"Prevents Corrosion"

The best contact cleaner on the market. Fine for attenuators, push button switches, all wave switches, contacts, etc. Cleans contacts and prevents corrosion. The only acceptable lubricant for Philco Mystery controls. Moisture repellent and rust preventing—fine for use on locks, fishing reels, guns, dial mechanisms, phonograph equipment, etc. Is especially desirable since it clings to the metal.

LUBE-REX LUBRIPLATE

1203—½ oz.	List Price $0.20
1209—2 oz.	List Price .50
1208—pint	List Price 2.25

12 to display

G-C Q-DOPE

"Made from Polystyrene"

New Ultra Low Loss Compound that is recommended for high frequency work. Absolutely no loss in Q—fast-drying—maintains coil characteristics.

POLYSTYRENE Q-DOPE

No.		List Price
37-2	2 oz. bot.	$0.35
37-4	4 oz.	.60
37-8	½ pt.	1.05
37-16	Pint	2.00
37-32	Quart	3.50
37-G	Gallon	9.00
37-5G	5 Gallon	43.50
	Special Thinner	
41-2	2 oz. bot.	.25
41-4	4 oz.	.45
41-8	8 oz.	.75
41-G	Gal.	4.00

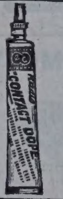
G-C RADIO CHASSIS CLEANER

RADIO CLEANER

Make extra money by returning your customer's set thoroughly cleaned from dirt, grease and grime. Chassis Cleaner cleans Radio Chassis, Panels, Test Equipment, etc., without injuring the surface. Buy in gallon quantities and save.

		List Price
123-8	8 oz. bottle	$0.50
123-16	16 oz. bottle	.75
123-G	gallon can	2.25

G-C CONTACT DOPE



Ideal new chemical for treating Electrical and Radio Contacts. Will prevent corrosion and eliminate noise on switches, contacts, relays, etc. Put in convenient long-neck tubes for easy application.

No.		List Price
1213	Tube	$0.30
1213-D	Display—24 Tubes	7.20

G-C CONTACT & ATTENUATOR SERVICE KIT

"Eliminates Noise . . . Prevents Corrosion"

Ideal kit for cleaning noisy attenuators, tuners, all-wave switches, variable contacts, etc. Consists of special contact cleaner and special corrosion-resistant lubricant. With this Kit you can easily clean those noisy controls and 9 times out of 10 without dismantling the chassis or control unit. It will pay to use this Kit.

	List Price
No. 777—Kit	$1.00

G-C CARBON-X

"For Noisy Carbon Controls"

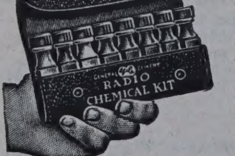
Here is an item every Service Man has been looking for. A practical method to touch up those worn and noisy spots on carbon volume controls. You simply apply CARBON-X over the bad spots and the job is done. When you cannot sell a replacement control you can do the job with Carbon-X.

CARBON-X is an electrical conductor

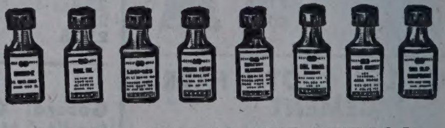
No.	12 to display	List Price
1200	½ oz. bottle	$0.20
1204	1 oz. bottle	.50
1205	2 oz. bottle	.75

G-C RADIO CHEMICAL KIT

A complete kit of 8 chemical necessities in a neat leatherette pocket case. The kit makes it easy for the Serviceman to always have his chemical needs with him on the job. Includes the following 8 necessities: Service Cement, Rubber Drive Cement, Carbon-X Lube-Rex, Scratch Polish, Non Slip Compound, Dial Oil, and Contact Cleaner. A handy applicator is attached to the cap of each container to make it easy to use. Servicemen should have this kit with them for every outside call.


GENERAL CEMENT RADIO CHEMICAL KIT

No.	List Price
999—Radio Chemical Kit	$2.25
Any type refill for Kit	.20



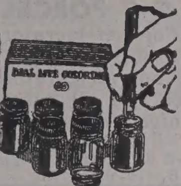
G-C CHEMICAL KIT REFILLS

No. 30-0—Radio Cement	No. 1200—Carbon-X
No. 35-0—Dial Drive Cement	No. 1203—Lube-Rex
No. 127-0—Contact Cleaner	No. 1211—Non-Slip Compound
No. 923—Scratch Polish	No. 1246—Dial Oil

List Price—Any Type	$0.20
Display 12 Bottles—Any Type	2.40

GENERAL G-C CEMENT Paints - Varnishes - Compounds

G-C DIAL LITE COLORING

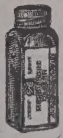


Long lasting coloring for multi-colored dials. Instant drying. Bright colors of Red, Green, Blue, Amber, Purple, and Solvent. Earn extra money by selling colored dial lites.

Dress up those old sets.

No.	List Price
66-6 —6 bots.	$ .60
66-5 —5 bots., no purple	.50
66-1 —Bot. of any color	.10
66-2 —2 oz. Bot., any color	.35
66-16—Pint of any color	1.75
66-32—Quart, any color	2.25
66-G —1 Gal., any color	8.50

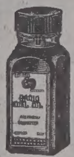
G-C MICROPHONE CARBON GRANULES



Finest grade, polished carbon. No ash content, so can stand high currents without burning. Enough for several double button Microphones. 3 types.

No.	List Price
1281—No. 100 size—highest sensitivity, best quality reproduction, but packs easily	$.80
1282—No. 80 size—Best for general purpose work. Good quality reproduction and does not easily pack.	.80
1283—No. 60 size—Best for hard use—sound trucks, etc. Fair quality reproduction less packing.	.80

G-C RADIO DIAL OIL

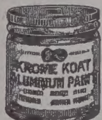


Special oil for lubricating dial mechanisms. Treated with graphite to assure effective lubrication. You need this for the new complicated dials.

No.	List Price
1245—4 oz.	$.25

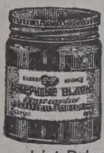
G-C KROME-KOAT ALUMINUM PAINT

Fast drying ready mixed aluminum paint leaves chrome-like finish. For P.A. equipment, speakers, chassis, etc.



No.	Size	List Price
61-2	2 oz.	$0.30
61-4	4 oz.	.60
61-8	8 oz.	1.10
61-16	16 oz.	2.00
61-32	32 oz.	3.25
61-G	1 Gal.	9.00

TELEPHONE BLACK & GRAY



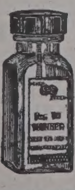
High grade enamel that covers well and dries fast. Black will produce an ebony black finish that is so familiar on telephone devices. Gray is a pleasing shade. Excellent for panel work and parts. Specify color.

12 to display

No.	List Price
62-2 —⅛ pt.	$0.35
62-8 —½ pt.	1.05
62-16—Pint	2.00
62-32—Quart	3.50
62-G —1 Gallon	10.50
62-5G—5 Gallons	50.00

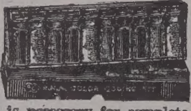
G-C No. 10 THINNER

For Ruf-Koat, Krome-Koat, B-K Cement, Insulating Varnish, and Rubber Cements



No.	List Price
67-2 —2 oz.	$ .35
67-4 —4 oz.	.50
67-8 —8 oz.	.75
67-16—pint	1.00
67-32—quart	1.50
67-G —gallon	3.25
67-5G—5 gallons	15.75

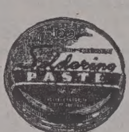
G-C R.M.A. COLOR CODING KIT



Complete Kit of all of the standard R. M. A. colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Grey and White. All colors are brilliantly alive. Brushes furnished and R. M. A. color chart is on box. Kit is necessary for complete color coding parts.

No.	List Price
677—Color Coding Kit	$1.10

G-C SOLDERING PASTE

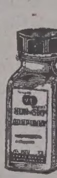


New high quality, non-corrosive, soldering paste for radio and electrical work.

No.	List Price
1207—2 oz. can	$.17

24 to Carton

G-C NON-SLIP COMPOUND FOR RADIO DIALS

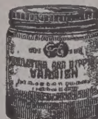


Powder Compound for treating friction type dial drives such as cords, cables, and belts. Easy to use! Just apply freely to slipping parts.

No.	List Price
1210	$.30

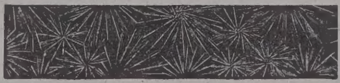
G-C INSULATING & DIPPING VARNISH

Clear Amber Insulating Varnish for noisy or buzzing transformers, chokes, field coils, etc. Requires no baking—air dries.



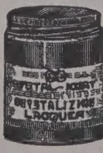
No.	List Price
56-2 —2 oz.	$ .35
56-4 —4 oz.	.50
56-8 —8 oz.	.80
56-16—Pint	1.50
56-G—1 Gallon	9.80
56-5G—5 Gallons	45.00

G-C KRYSTAL KOAT CRYSTALIZING LACQUER



The famous GC Krystal Koat lacquer. Strictly Air-Drying; forms beautiful floral pattern when dry. For chassis, panels, etc. Can be used on metal, wood or paper.
Colors: Black, Gray, Brown, Green, Blue, Red and Clear. Specify Color.

12 to display

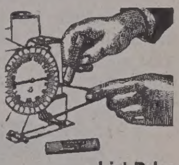


No.	List Price
63-2 —⅛ pt.	$0 40
63-4 —¼ pt.	.75
63-8 —½ pt.	1.25
63-16—Pint	2.25
63-32—Quart	3.50
63-G —1 Gallon	12.50
63-5G—5 Gallons	58.50

NOTE: Impenetro Sealer must be used for undercoat when Krystal Koat is applied over other finishes. Same price as black.

CLEAR FROST-X for frosting window glass same price as Crystal Lacquer.

NEW! G-C DIAL CORD DRESSING STICK

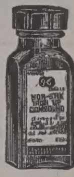


A new easy way to treat slipping cords on dial mechanisms. Simply rub the stick on cord and job is done! Prevents and stops slipping. Carry a stick with you.

No.	List Price
1212—Dressing Stick	$.20
1212-D—Display—36 Sticks	7.20

G-C NON-STICK IRON TIP COMPOUND

"Made with Graphite"

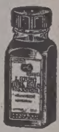


A new development. Prevents iron tips from burning into soldering irons. Saves tips and irons.

No.	List Price
1201—2 oz. bottle	$.35
1216—Pint	2.75

G-C LIQUID NON-SLIP

"For Radio Drive Cables and Belts"



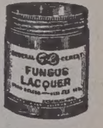
Penetrating and fast drying liquid dressing. Shrinks fibres, prolongs life of cables and belts and prevents slipping.

No.	Size	List Price
1211	½ oz.	$0.20
1215	2 oz.	.35

G-C FUNGUS LACQUER

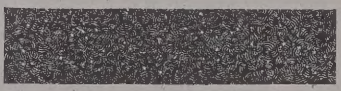
"Meets U. S. Army Signal Corps Specifications"

G-C Fungus Lacquer is used on all types of Radio Electronic and Communication equipment to prevent moisture absorption and fungus growth, when equipment is used in hot and humid climates.

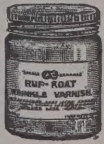


No.	List Price
57-2 —2 oz.	$0.35
57-8 —8 oz.	.80
57-16—16 oz.	1.50
57-G —1 Gal.	9.00

G-C RUF-KOAT AIR DRY WRINKLE VARNISH



The only finish that will Air Dry and give you a professional wrinkle job without baking. It is the same finish as is employed by manufacturers on P. A. Equipment, Chassis, Panels, and Racks. Easy to use. Don't experiment — use the best.



Colors: Black, Gray, Brown, Green, Red and Blue. (Specify Color)

12 to display

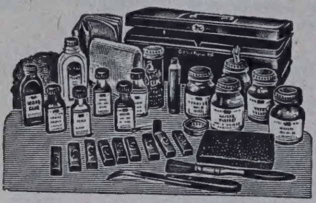
No.	List Price
60-2 —⅛ pt.	$0.45
60-4 —¼ pt	.75
60-8 —½ pt.	1.25
60-16—Pint	2.25
60-32—Quart	3.50
60-G —Gallon, Black	10.00
60-G —Gallon, Colors	11.50
60-5G—5 Gal., All Colors	49.00

Undercoat. Use Ruf-Koat Undercoat before applying Ruf-Koat on porous materials. Same price as above.

GENERAL G-C CEMENT
Cabinet Repair Kits Scratch Removers

G-C MASTER DELUXE CABINET REPAIR KIT
"New, Most Complete Kit"

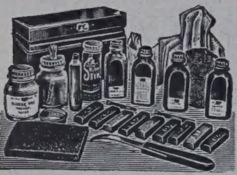
A complete cabinet repair kit, put in a permanent metal box. All finishes supplied are spirit soluble and will not cut or damage surrounding finishes on cabinets, etc. Kit contains shellac sticks, alcohol lamp, French varnishes, rubbing felt and fluid, enamels, glue, steel wool, sandpaper, polish, directions, etc. Nothing else needed! The best buy on the market!



No. 900 — Master De Luxe Cabinet Repair Kit.
List Price $6.75

G-C DELUXE CABINET REPAIR KIT
"New Improved Kit"

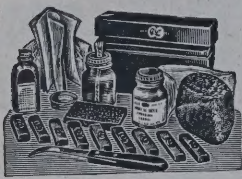
Comes in handy Black Leatherette finish box. Contains nine shades of shellac sticks, bottles of light and dark oil stain, bottles of metal shading varnish, polish, General Skratch Stik, alcohol lamp (with alcohol) spatula, small brushes, steel wool, sand paper, and wiping cloth. Everything necessary for a practical repair job. No special skill required. Directions included.



No. 901......List Price $3.50

G-C RADIO-REFRIGERATOR CABINET PATCH KIT
"New Improved Kit"

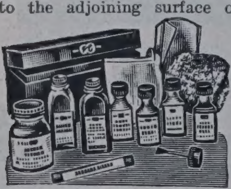
A Kit of the Shellac Patch Sticks to fill all needs. Patches wood, plastics, bakelite and porcelain. Nine shellac sticks for the light and dark shades of wood, and black and white, alcohol lamp (with alcohol), spatula, steel wool, sand paper and wiping cloth are packed in the black leatherette box. Directions included.



No. 903..........List Price $2.45

G-C MASTER CABINET TOUCH-UP KIT
"Ideal Quick Touch-Up Kit"

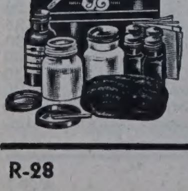
A complete, fast touch-up kit for repairing scratches and dents. Works on wood and plastic cabinets. The spirit finishes will not cut into the adjoining surface or injure surrounding finish. Contains French varnish, emulsion, colored enamels, stains, polishes, and filler. Sandpaper, steel wool, rubbing cloth and directions included. Brushes attached to caps of all finish bottles. Put up in black leatherette finish box.



No.	**List Price**
907—Master Touch-Up Kit	**$1.95**

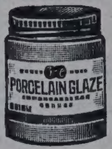
G-C REFRIGERATOR PATCH KIT
"New Improved Kit"

Supplies everything necessary to repair porcelain or Duco nicks, dents, or scratches. Kit contains bottle of pure white lacquer enamel and bottles of yellow, blue, brown, and black tinting colors, a bottle or porcelain glazing compound, solvent, spatula, sandpaper, mixing tins and brushes. Useful on refrigerators, washers, ranges, table tops, etc. Directions included.



No.	**List Price**
902	**$2.65**

G-C PORCELAIN GLAZE
"For Refrigerators and Washers"

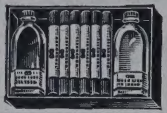


Easily fills in those nicks in porcelain. Used on refrigerators and washing machines and all porcelain. Merely fill in the nick and smooth over the top.

No.	**List Price**
911—2 oz. Bottle	**$0.50**
911-16—16 oz. Bottle	**2.00**

NEW! G-C MAGIC SCRATCH REMOVER KIT

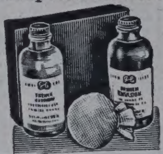
New combination kit of 6 colors popular shades of wood Scratch Stik fillers, and 2 bottles scratch remover liquid—walnut and clear. Merely select proper shade of filler and run it over the scratch. Works on all types of light and dark shades of wood. Sold to housewives on sight.



No.	**List Price**
915—Per package	**$0.75**

G-C FRENCH VARNISH KIT

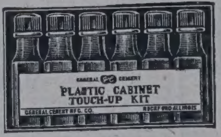
Complete Kit for French Polishing. The only practical way to blend cabinet repairs with the adjoining finish. Kit contains French varnish, Emulsion, Polishing Pad and complete directions.



No.	**List Price**
160-0—Kit	**$1.00**

G-C PLASTIC CABINET TOUCH-UP KIT
"For Plastic and Colored Cabinets"

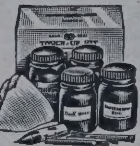
A new Kit composed of six various shades of the high grade lacquer enamel for touching up plastic cabinets. All colors are very brilliant and will blend with cabinets in use. Kit contains Walnut, Ivory, Black, Red Blue and Green colors. Brushes furnished.



No. 910...............List Price $1.00

G-C CABINET TOUCH-UP KIT
"Improved Kit"

A practical Kit for scratches and dents. Includes light and dark stains and light and dark varnish stains that dry almost immediately, brushes, wiping cloth, and a scratch filler.



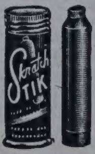
No. 905.......................List Price $0.60

G-C SHELLAC STIKS

For permanently filling in holes and nicks in cabinets and fine furniture. All shades.

		List Price
No. 925	Kit of 10 asst., 2¼" sticks	**$1.00**
No. 929	—Light Walnut, 7" stick	**.25**
No. 930	—Dark Walnut, 7" stick	**.25**
No. 933	—Black, 7" stick	**.25**
No. 934	—White, 7" stick	**.25**
No. 935	—Maple, 7" stick	**.25**
No. 936	—Special Spatula	**.50**
No. 937	—Alcohol Lamp	**.25**
No. 938	—Alcohol Lamp Fuel per pt.	**.75**
No. 978	—Light Oak, 7" stick	**.25**
No. 979	—Dark Oak, 7" stick	**.25**
No. 980	—Transparent, 7" stick	**.25**
No. 981	—Light Transparent, 7" stick	**.25**
No. 982	—Walnut, 7" stick	**.25**
No. 983	—Mahogany, 7" stick	**.25**
No. 984	—Blonde Maple, 7" stick	**.25**
No. 990	—Felt Rubbing Pad	**.25**
No. 992	—2 oz. Shellac Stick Rub. Fl.	**.35**

G-C GENERAL SKRATCH STIK



Handy Pocket scratch remover. The stick has both a filler and a scratch polish in it. It's hard to avoid making scratches, but they are easy to take out with this stick. The most popular Scratch Stik on the market. Thousands in use. Makes excellent premium for customers. Your name imprinted in Gross lots.

No. 909—Skratch Stik ....**List Price $0.35**
No. 909-D—Display of 12 ....**List Price 4.20**

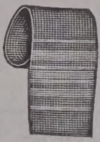
GENERAL G-C CEMENT Grille Cloth - Polishes

G-C LUGGAGE FABRIC

Aeroplane type—same as used in new portable radios. Necessary to re-cover or repair damaged cases, modernize your old test equipment cases, etc. The logical covering for worn out instrument cases.

Colors: Gray or Brown, Plain or Striped.
(Specify Color)

No.	List Price
960—18″ x 18″	$0.65
961—36″ x 18″	1.15
962—Any length per yd., 36″ wide	2.25



G-C RADIO Cabinet Speaker GRILLE CLOTH

High quality speaker grille cloth, that will blend with any cabinet.

No.	List Price
940—18″ x 20″	$0.75
941— 9″ x 18″	.50
942—12″ x 12″	.50
943—14″ x 18″	.60
944—24″ x 13″	.70
945—18″ x 13″	.55
946— 8″ x 8″	.20
947— 9½″ x 10″	.25
948— 6″ x 6″	.20
949—Any length, per yd.	3.50

Speaker
GRILLE CLOTH
for Radio Cabinets

Special light color Grille Cloth for Plaskon and Ivory Cabinets can be supplied at above prices. Specify "Ivory" when wanted.

G-C LEATHERETTE INSTRUMENT FABRIC

A black leatherette finish fabric for re-covering instrument cases. Same as used by manufacturers. Keep your instruments looking new.

No.	List Price
965—18″ x 20″	$0.45
966—18″ x 40″	.85
967—Any length (per yd.) 36″ wide	1.50

G-C FRENCH VARNISH

For blending repaired surfaces with the original. Merely apply over the repaired part and it will blend into the original finish and conceal the repair. Dries Fast.

No.	List Price
160-2 —⅛ pt. bot.	$0.35
160-4 —¼ pt.	.65
160-8 —½ pt.	1.05
160-16—Pint	2.00

FRENCH VARNISH

G-C SCRATCH REMOVER LIQUID

New type liquid! Removes scratches instantly. Simply wipe the liquid with a cloth over the scratches and they will disappear. A handy bottle to have in every Service Men's Kit.

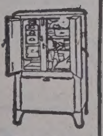
No.	List Price
917—2 oz. Bottle	$0.35

SCRATCH REMOVER LIQUID

G-C PORCELAIN PATCH STICK

Specially made for white Porcelain Refrigerators. Simply melt into nick and smooth off. Makes a perfect patch.

No.	List Price
908	$0.25
908-D—Display—12 Sticks	3.00



G-C RUBBING OIL

For rubbing down newly finished cabinets and furniture. Takes the high gloss off newly lacquered and varnished surfaces. Produces a satin-like finish.

No.	List Price
163-16—Pint	$0.50
163-32—Quart	.75
163-G —Gallon	2.00

RUBBING OIL FOR CABINETS

G-C SPIRIT VARNISH STAIN

The same stains that are used in our cabinet touch-up Kits. A durable fast drying varnish with the finishing stains in it. Available in light and walnut shades.

Specify shade.	List Price
No. 161-2 —⅛ pint	$0.50
No. 161-4 —¼ pint	.75
No. 161-8 —½ pint	1.00
No. 161-16—Pint	2.00
No. 161-32—Quart	3.00

WALNUT VARNISH STAIN

G-C LEMON OIL POLISH

A high grade inexpensive lemon oil polish. Polish those sets after repairing for customer good-will.

FAST WORKING
INEXPENSIVE
12 to Carton

No.	List Price
91-8 — 8 oz. bottle	$0.25
91-16—16 oz. bottle	.45
91-G —Gallon	3.00

GENERAL CEMENT
LEMON OIL POLISH

G-C TOPS SKRATCH REMOVER POLISH

Our famous Scratch Remover Polish put up in a special bottle with an applicator in the cap. Merely rub the applicator over the scratch and the job is done. Display in your shop for extra sales.

No. 92-1—Regular Size bottle.
List Price $0.17

92-1D—Deal—Includes 36 bottles of Tops Skratch Polish and display.
List Price $6.12

92-0—5 oz bottle .42

TOPS
SKRATCH REMOVER
Brush Top

G-C PENETRATING STAIN

"Spirit Type"

The stain that is used to cover scratches and nicks on Radio Cabinets, Pianos, Furniture, etc. Specially formulated to penetrate into wood. Fine for darkening the corners on cabinets. Use on all wood. Walnut finish.

	List Price
162-2 —⅛ pint	$0.20
162-4 —¼ pint	.35
162-8 —½ pint	.65
162-16—Pint	1.25

PENETRATING STAIN FOR WOOD

G-C WINDOW CLEANER CONCENTRATE

"Make your own window cleaner and save"

Here's exactly the same compound as is used in the popular window cleaners — make your own and save. You simply add the concentrate to water and have a first grade window cleaner. Concentrate is colored blue. Regular size bottle will make a quart of cleaner.

No.	List Price
122-5—6 oz. bottle	$0.25
122-G—Gallon	3.00

WINDOW CLEANER CONCENTRATE

G-C TOPS SELF-POLISH LIQUID FLOOR WAX

Durable no-rub self-polishing Floor Wax. Very Best Quality. Merely apply to the floor and dries to a durable gloss finish. Profit by selling.

	List Price
No. 97-16—Pint	$0.65
No. 97-32—Quart	1.20
No. 97-G —Gallon	3.95

TOPS
SELF Polishing WAX

G-C TOPS SPOT CLEANER

A High Grade dry cleaner with a special applicator. The applicator is in the cap—no extra cloth needed. Non-explosive. Sell your customers for extra profits.

No.	List Price
124-1—Regular Size bottle	$0.17
124-1D—Deal—Includes 36 bottles of Tops Spot Cleaner and display	$6.12
124-2 — 5 oz. bottle	$0.42
124-8 — 8 oz. bottle	.50
124-16—16 oz. bottle	.75

TOPS
SPOT REMOVER
Brush Top

G-C MAGIC SCRATCH REMOVER POLISH

LIGHT SHADE

NEW!

Light Shade for Blonde Maple, Mahogany and all light wood.
12 to Carton

No.	Size	List Price
93-2	2 oz.	$0.20
93-8	8 oz.	.45
93-16	16 oz.	.75
93-32	32 oz.	1.25
93-G	1 Gal.	4.00

DARK SHADE

Something new! Polish contains the proper stains, etc., to eliminate scratches on cabinets while polishing the cabinet to a gloss! You can sell this to Housewives.
12 to carton

No.	List Price
92-2 —2 oz. bottle	$0.20
92-8 —8 oz. bottle	.45
92-16—16 oz. bottle	.75
92-32—Quart	1.25
92-G —Gallon	4.00

Skratch Remover and Polish
REMOVES SCRATCHES

G-C CREME-O-WAX POLISH

The best polish for furniture, radio cabinets, pianos. etc. Truly a wax finish; contains no oil. Dries hard and glossy. Is not sticky. Demonstrate on the job and sell your customer. Easily applied.

12 to carton

No.	List Price
95-2 — 2 oz. bottle	$0.20
95-8 — 8 oz. bottle	.45
95-16—16 oz. bottle	.75
95-32—Quart	1.25
95-G —Gallon	4.00

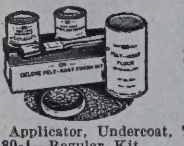
CREME O WAX
Polish
for RADIO CABINETS PIANOS and FINE FURNITURE

GENERAL G-C CEMENT Phonograph Needles - Record Compounds and Accessories

G-C FELT-KOAT "FLOCK FINISH KITS"

Powdered Felt

Complete Flock Finish Kit for applying soft felt-like, flock to phono-turntables, cabinets, testers, panels, displays, tool chests, compartments, lamp bases, wire mesh on speakers, and microphone grills, etc. Produces heavy soft velvet-like coat that prevents scratching. Easy to apply.



Colors: Brown, Blue, Taupe. (Specify color.)

No.		List Price
180-0	DeLuxe Kit	$2.00

Contains Flock, Special Applicator, Undercoat, Thinner, and Brush.

180-1	Regular Kit	1.65

Contains Flock, Special Applicator, and Undercoat.

G-C FELT-KOAT MATERIALS

Colors: Brown, Taupe, Blue

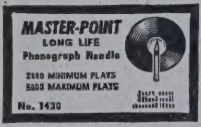
FLOCK—Sifter Top Can

No. 180-5	(Specify Color)	List Price $1.00
Bulk Flock	(Specify color), per lb.	5.50

UNDERCOAT (Specify Color)

No.		List Price
180-4	4 oz.	$0.70
180-8	8 oz.	1.10
180-16	pint	2.00
THINNER		
181-4	4 oz.	.35
181-8	8 oz.	.50
181-16	pint	.75

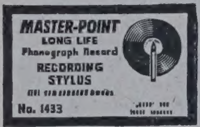
G-C MASTER-POINT LONG-LIFE PHONO-NEEDLE



Long life quality performance needle that is made with precious metal tip, specially polished to eliminate surface noise and save the record, and is guaranteed to play at least 2000 recordings, and on automatic equipment to play 5000 recordings. Each needle on cellophane wrapped card. Sell your customers the best.

No.		List Price
No. 1430	Each	$0.75
No. 1431-D	Display of 12	8.50

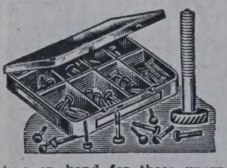
G-C MASTER-POINT LONG LIFE RECORDING STYLUS



The best cutting stylus made from processed alloy steel, that will give several hours of perfect cutting. Not to be confused with cheap short-lived stylus. Each needle mounted on cellophane wrapped card. Sell your customers the best so as to assure satisfaction.

No.		List Price
No. 1433	Each	$0.50
No. 1434-D	Display of 12	6.00

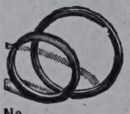
G-C PHONOGRAPH NEEDLE AND STYLUS SET SCREWS



Here's the hard-to-get replacement set screws for pick-up arms and recording heads! Replacements for all popular types. Specially made round head, hardened machine screws. Buy a kit so as to have all 8 sizes on hand for those unexpected rush jobs and calls.

No.		List Price
1052	10 Assorted Stylus Screws	$1.35
1053	100 Assorted Stylus Screws	12.50
P1	for Shure Bros. No. 30-132	.15
P2	for Astatic No. 3258; RCA No. 37045; Webster Electric No. P9564-1	.15
P3	for Astatic No. 3207 and 3205; Stromberg-Carlson SD-64 and SD-149; Universal No. 3207; Webster No. 26A2108.	.15
P4	for Rek-O-Kut Recorder Cutter No. MG625, and No. 8-S; Webster Co. No. 26A2142	.15
P5	for RCA No. 34432	.15
P6	for RCA Nos. 33974, 3811, 33529, 31160, 12539	.15
P7	for Webster Electric No. P4819-2	.15
P8	for Shure Bros. No. 30-76	.15

G-C PHONO-TURNTABLE Rubber Replacement Drives



Exact duplicates for replacement of popular friction-type phono turntable drives. Increase efficiency and prevent slipping by replacing worn rubber drives. Use G-C 35-2 Rubber to Metal Cement for cementing rubber to rim.

No.		List Price
16	For General Industries RX-LX Motors	$0.25
17	For Alliance Model 80 and Motorola	.25
18	For R.C.A.	.15
19	Philco, R.C.A., etc.	.15
20	For Detrola	.40
16-19-D	Display—32 Asst. Drives	6.40

RECORD-TURNTABLE FELT

"Ready Cut Pieces"

Replace worn out and "friction-less" felt on record turntable. You or your customers cannot obtain good recordings or reproductions unless the record is held firmly in place on the turntable. Keep a supply of this special felt on hand for that extra profit job. Pieces cut round, center hole punched.

		List Price
No. 1292	7⅞" diam.	$0.35
No. 1293	9⅞" diam.	.50
No. 1294	11⅞" diam.	.65
No. 1295	15⅞" diam. (Broadcast size)	1.00

(Use "Fabric to Metal Cement" as an adhesive)

G-C PLAY BACK PHONOGRAPH NEEDLES

HI-TONE
PHONOGRAPH NEEDLES

G-C Phonograph needles are made of the very finest grade tool steel. The points are precision ground, and are accurately cut. They are specially heat treated to give good service. Good needles save the cost of record replacements.

Available in extra loud, loud, medium and soft tones.

No.		List Price
1401	50 to pkg.—specify tone	$0.10
1402	100 to pkg.—specify tone	.15
1403	Carton of 50 pkgs. of 100— asstd. tones.	7.25
1404	Carton of 50 pkgs. of 100—specify tone.	7.25
1405	Carton of 50 pkgs. of 50—asstd. tones.	4.75
1406	Carton of 50 pkgs. of 50—specify tone.	4.75

G-C RECORD CLEANING PAD

RECORD CLEANING PAD

For all who use records, this specially treated pad is necessary to clean and remove dust and accumulation from records, without harming them. You can sell records users one of these pads.

No.		List Price
1290	Size 4" x 4"	$0.20
1291	Size 6" x 6"	.40
1291-D	Display—12 Pads	4.80

G-C PHONO-TURNTABLE MOTOR & GEAR LUBRICANT

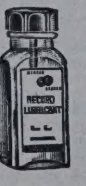
"MADE WITH GRAPHITE"

PHONO
MOTOR & GEAR
LUBRICANT

A new special lubricant for phonographs. Other lubricants will thin and run to the lowest point of gravity on the mechanism, but this is specially formulated so that the lubricant clings to the surface of the parts. Eliminate trouble on phono repairs by using the best.

No.		List Price
1223	Tube	$0.42
1223-D	Display—12 Tubes	5.04

G-C RECORD LUBRICANT

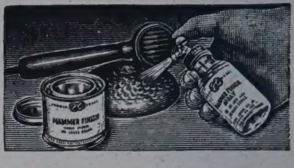


Reduces the surface noise and prevents excessive wear on the record or needles. Can also be used for a pre-recording lubricant. Records will last longer when you use a lubricant.

12 to Display

No.		List Price
125-1	1 oz. bottle	$0.25
125-2	2 oz. bottle	.35
125-4	4 oz. bottle	.50
125-6	6 oz. bottle	.75

G-C HAMMER FINISH KIT



Easy-to-apply kit, that produces that new hammered metal effect finish now popular on panels, chassis, test equipment, etc. Easiest finish to apply. Dries very quickly, no baking necessary. No experience required. Kit is complete with spray and materials, nothing else to buy.

Colors: Blue Green, Silver Green, Silver, Silver Blue, Blue and Copper Bronze. (Specify Color)

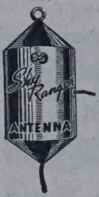
No. 182-0—Compete Kit..........List Price $1.65

G-C HAMMER FINISH MATERIALS

HAMMER FINISH (Specify Color)

No.		List Price
182-4	4 oz.	$0.75
182-8	8 oz.	1.25
182-16	16 oz.	2.20
182-32	32 oz.	4.25
182-G	Gal.	15.00
TOP KOAT		
183-4	4 oz.	.50
183-8	8 oz.	.80
183-16	16 oz.	1.50
182-3	Special Spray Empty	.40

G-C SKY-RANGER INDOOR AERIAL



A new Aerial Eliminator that really works. Can be used with any radio. Very high grade in appearance and performance. Sells on sight. Improves reception. It can be quickly installed by anyone.

No.	List Price
1400	$1.00

G-C PHONO-NEEDLE CUP

Standard size bakelite molded replacement phono-needle cup.

WALNUT FINISH

No.		List Price
1399	Phono needle cup	$0.10

G-C PHONO-TURNTABLE LUBRICANT

"Made with Graphite"

PHONO-TURNTABLE LUBRICANT

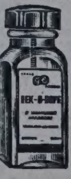
A new special lubricant for phonographs. Other lubricants will thin and run to the lowest point of gravity on the mechanism, but this is specially formulated so that the lubricant clings to the surface of the parts. Eliminate trouble on phono repairs by using the best.

12 to display

No.		List Price
122-2	2 oz. bottle	$0.35

G-C REK-O-DOPE

"New All-Purpose Record Compound"

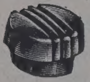


Cleans — Lubricates — Hardens — Renews old records and preserves new records and recordings. It improves reproduction as it removes all dirt and loose particles, lubricates the surface and hardens the grooves. Records treated with G-C REK-O-DOPE will give better tone, and will last longer.

No.		List Price
126-1	1 oz. bottle	$0.25
126-2	2 oz. bottle	.45
126-4	4 oz. bottle	.60
126-6	6 oz. bottle	.75

GENERAL G-C CEMENT Radio Knobs and Accessories

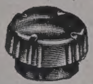
G-C Set Screw BAKELITE KNOBS



MAJESTIC BAKELITE KNOBS

Popular pattern, walnut finish Set screw, ¼″ shaft.

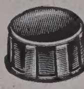
No.	Size	List
1100	⅞″	$.13



ROYAL BAKELITE KNOBS

Beautiful pattern, walnut finish. Set screw, ¼″ shaft.

No.	Size	List
1105	⅞″	$.13



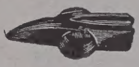
YANKEE BAKELITE KNOBS

Modern pattern, walnut finish. Set screw, ¼″ shaft.

No.	Size	List
1109	¾″	$.13
1110	1″	.15

G-C MODERN POINTER KNOBS

Streamline Pointer



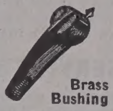
Popular pointer knob. ¼″ shaft, set screw type.

Black or Wal. (Specify)

No.	Size	List
1136	1¼″	$.14
1135	2¼″	.17

Red or Ivory (Specify)

No.	Size	List
1137	1¼″	$.19
1138	2¼″	.22

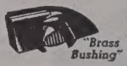


MODERN POINTER KNOBS

Attractive pattern, black finish. Set screw, ¼″ shaft.

No.	Size	List
1130	2¾″	$.25
1131	1⅝″	.20

Streamline Pointer



Popular pointer knob with brass insert for better mounting. ¼″ shaft—set screw type.

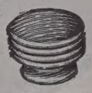
Black or Wal. (Specify)

No.	Size	List
1170	1¼″	$.22
1171	2″	.25

Red or Ivory (Specify)

No.	Size	List
1172	1¼″	$.25
1173	2¼″	.28

G-C Wood KNOBS

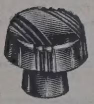


MODERN WOOD KNOBS

Modern pattern, walnut finish. Set screw, ¼″.

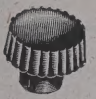
No.	Size	List
1120	1″	$.17
1121	1⅛″	.19
1122	1¼″	.19

G-C KNURL SHAFT BAKELITE KNOBS



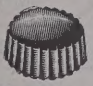
Bakelite—15/16″ diam. spring type to fit ¼″ flat shaft. Has 7/16″ extension shank.

No.	List
1151–Walnut	$.11
1152–Ivory	.12



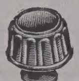
Bakelite—15/16″ diam. knurled shaft with a 7/16″ extension shank.

No.	List
1153–Walnut	$.11
1154–Ivory	.12



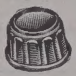
Bakelite—15/16″ diam. to fit the new style knurled shaft.

No.	List
1155–Walnut	$.11
1156–Ivory	.12



Midget Bakelite ¾″ diam. knurled type — with 5/16″ extension shaft.

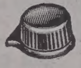
No.	List
1157–Walnut	$.11
1158–Ivory	.12



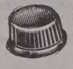
Midget Bakelite ¾″ diam. knurled type shaft.

No.	List
1159–Walnut	$.11
1160–Ivory	.12

G-C MIDGET KNOBS



Set SCREW TYPE



MIDGET BAKELITE KNOBS

Popular knobs for small sets. 11/16″ diam. Set screw, ¼″ shaft.

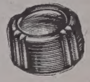
Pointer Type

No.	Color	List
1115	Walnut	$.11
1116	Ivory	.12
1117	Red	.11
1118	Black	.11

Non-Pointer Type

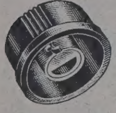
No.	Color	List
1111	Walnut	$.11
1112	Ivory	.12
1113	Red	.11
1114	Black	.11

G-C ROYAL WOOD KNOBS



Popular pattern, Walnut finish. Set screw, ¼″ shaft.

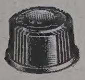
No.	Size	List
1125	¾″	$.19
1126	1″	.24
1127	1¼″	.24



G-C D-SHAFT BAKELITE KNOBS

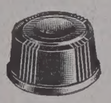
"Spring Clamp Type"

MODERN KNOB TO FIT D TYPE SHAFTS. VERY POPULAR ON MIDGET SETS.



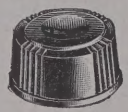
⅝″ Size

No.	Color	List Price
1161	Walnut	$.12
1162	Ivory	.12
1163	Ivory Mottled	.12



¾″ Size

No.	Color	List Price
1164	Walnut	$.12
1165	Ivory	.12
1166	Ivory Mottled	.12

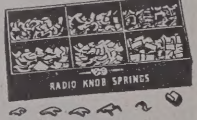


1″ Size

No.	Color	List Price
1167	Walnut	$.14
1168	Ivory	.14
1169	Ivory Mottled	.14

G-C Radio Push-on Knob Springs

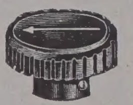
Here's what you've been looking for. An assortment of types of springs used in radio knobs. Will fit in all knobs, such as on Majestic, RCA, Philco, General Electric, etc. You need a Kit.



No.	List Price
1049—20 asst. in env.	$.40
1049-D—Display—20 Env.	8.00
1050—Kit of 35 Springs	.60
1051—Kit of 100 Springs	1.25

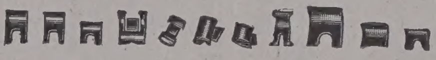
G-C INSTRUMENT KNOB

A superior knob for communication equipment and instruments, etc. Bakelite Molded knob with pointer, ¼″ brass insert and set screw. 1¾″ O.D. x ⅞″ over-all height.



No.	List Price
No. 1175	$0.35

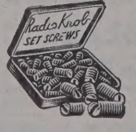
G-C RADIO PUSH-ON-KNOB SPRINGS



	List Price
K1, K2, K3, K4, K5, K7, K8, K9, K10, per hundred	$1.25
K1, K2, K3, K4, K5, K7, K8, K9, K10, each	.02
K6, K6-S, per hundred	2.50
K6, K6-S, each	.05

G-C RADIO KNOB SET SCREWS

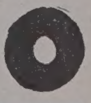
Replacement Screws for Knobs. Assortments contain various length of 6/32, 8/32 and 10/32 screws.



No.	List Price
1060—50 assorted set screws	$ .90
1061—100 assorted set screws	1.65
1062—20 assorted set screws in env.	.40
1062-D—Display—20 Env.	8.00

G-C RADIO KNOB FELTS

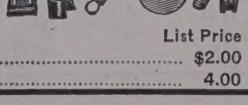
Same as are used behind radio knobs on the latest sets. Prevent scratching and rubbing.



No.	List Price
1065—45 Felts	$ .40
1065-D—Display—20 Env.	8.00

G-C HANDY DIAL AND KNOB REPAIR KIT

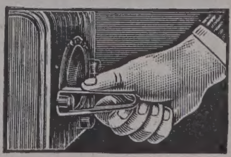
Complete assortment of Knob Springs, Set Screws, Dial Springs, Idler Pulleys and Drive Rubbers in a handy box. A handy kit to take on the job. 70 pieces in kit.



No.	List Price
1015—70 piece Repair Kit	$2.00
1016—150 piece Repair Kit	4.00

NEW! G-C KNOB PULLER

Now you can easily remove those knobs that are hard to grip. Simply slip the G-C puller behind the knob and pull it off. Saves time, the cabinet, and the knob. Have one in your shop and in your tool kit!



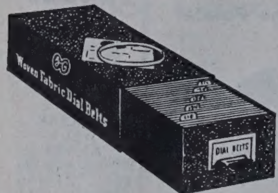
No.	List Price
1063—Knob Puller	$.25
1063-D—Display—24 Pullers	6.00

GENERAL G-C CEMENT

Woven Fabric Dial Belts Dial·Crystals

G-C SERVICEMEN'S DIAL BELT KITS

General Cement Belts are approved replacements for all sets. They are made of best quality material and will not stretch. They are specially treated to prevent slipping. They are the best. Sizes available for all sets. They are easy to install as they are made to fit. No adjustments necessary.



STEEL BOXES SUPPLIED WITH KITS

G-C SERVICEMEN'S KITS

Servicemen! Have an assortment of belts on hand for prompt replacement. Kits contain only the more popular belts used. KIT INCLUDES ATTRACTIVE STEEL BOX—BELT SCALE AND COMPLETE LISTING OF OVER 1100 MODELS.

	List Price
No. G- 25—Kit of 25 popular belts	$ 6.85
No. G- 50—Kit of 50 popular belts	13.25
No. G-100—Kit of 100 (includes every size)	25.00
No. G-200—Kit of 200—assorted	50.00
No. G-300—Kit of 300—assorted	75.00

G-C Belts are the same type as used by manufacturers on the best sets.

List Price Each Belt.................$0.25

Send for the new G-C Dial Belt and Cable Guide Book.

INSTRUCTIONS — FOR MEASURING BELTS

To determine size of belt, if the old belt is available, cut the belt and measure for stretched out length. This will be "cut length" of belt.

If old belt is not available or is worn out so that it cannot be properly measured, stretch a thin thread around belt pulleys on set. (Be sure to use thin thread as a thick cord will give an inaccurate reading.' Measure the thread, it will be our "circumference around pulleys." In measuring belts always remember that the **circumference around pulleys** is not the same as **stretched out or cut length.** A belt when cut, develops approximately 3/16" extra length when stretched out, depending on thickness of belt.

C-G RADIO BELT SPECIFICATIONS

LISTED AS PER BELT NO.

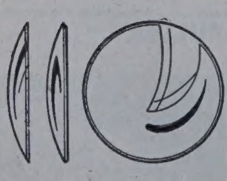
GC Belt No.	Circumference Around Pulleys	Cut Length	GC Belt No.	Circumference Around Pulleys	Cut Length
101	6-23/32"	6-29/32"	148	14-33/64"	14-3/4"
102	6-57/64"	7-5/64"	149	15-1/64"	15-13/64"
103	7-15/32"	7-21/32"	150	15-61/64"	16-9/64"
104	8-1/64"	8-13/64"	151	14-57/64"	15-5/64"
105	7-1/2"	7-11/16"	152	10-1/2"	10-11/16"
106	7-1/4"	7-7/16"	153	8-39/64"	8-51/64"
107	7-11/16"	7-7/8"	154	12-1/32"	12-7/32"
108	8-21/32"	8-27/32"	155	7-35/64"	7-23/32"
109	8-1/2"	8-11/16"	156	7-9/32"	7-15/32"
110	8-25/64"	8-37/64"	157	7-1/64"	7-13/64"
111	7-15/16"	8-1/8"	158	6-15/16"	7-1/8"
112	8-43/64"	8-55/64"	159	8-1/32"	8-7/32"
113	8-3/32"	8-9/32"	160	8-11/16"	8-7/8"
114	8-15/64"	8-27/64"	161	6-55/64"	7-3/64"
115	9-13/64"	9-25/64"	162	8-13/64"	8-25/64"
116	9-5/16"	9-1/2"	163	9-19/64"	9-31/64"
117	9-1/16"	9-1/4"	164	10-1/4"	10-7/16"
118	10-23/64"	10-35/64"	165	17-1/16"	17-1/4"
119	9-17/32"	9-23/32"	166	19-7/16"	19-5/8"
120	10-45/64"	10-57/64"	167	8-13/16"	9"
121	10-11/16"	10-7/8"	168	12-13/16"	13"
122	10-3/8"	10-9/16"	169	17-13/32"	17-19/32"
123	9-7/8"	10-1/16"	170	16-19/64"	16-31/64"
124	10-17/64"	10-29/64"	171	11-3/16"	11-3/8"
125	10-25/64"	10-37/64"	172	8-3/16"	8-3/8"
126	9-61/64"	10-9/64"	173	11-7/16"	11-5/8"
127	9-59/64"	10-7/64"	174	7-3/4"	7-15/16"
128	10-19/64"	10-31/64"	175	21-5/16"	21-1/2"
129	10-41/64"	10-53/64"	176	22-35/64"	22-47/64"
130	11-5/64"	11-17/64"	177	7-13/32"	7-19/32"
131	11-9/64"	11-21/64"	178	12-1/2"	12-11/16"
131W	11-9/32"	11-15/32"	179	17-37/64"	17-49/64"
132	10-31/32"	11-5/32"	180	10-27/32"	11-1/32"
133	10-61/64"	11-9/64"	181	18-9/16"	18-3/4"
134	11-3/8"	11-9/16"	182	15-13/16"	16"
135	11"	11-3/16"	183	15-7/16"	15-5/8"
136	11-25/64"	11-37/64"	184	16-27/64"	16-39/64"
137	11-5/32"	11-15/32"	185	16-15/16"	17-1/8"
138	11-57/64"	12-5/64"	186	14-7/32"	14-13/32"
139	12-9/32"	12-15/32"	187	15-17/64"	15-29/64"
140	12-7/32"	12-13/32"	188	19-47/64"	19-59/64"
141	11-3/4"	11-15/16"	189	18-1/2"	18-11/16"
142	12-3/32"	12-1/4"	190	17-5/8"	17-13/16"
143	11-13/16"	12"	191	22-49/64"	22-61/64"
144	12-15/32"	12-21/32"	192	straight belt	16"
145	12-39/64"	12-51/64"	193	straight belt	12-7/16"
146	13-3/16"	13-3/8"	194	11-21/32"	11-27/32"
147	14-27/64"	14-39/64"			

LISTED AS PER BELT SIZE

Circumference Around Pulleys	Cut Length	GC Belt No.	Circumference Around Pulleys	Cut Length	GC Belt No.
6-23/32"	6-29/32"	101	11"	11-3/16"	135
6-55/64"	7-3/64"	161	11-5/64"	11-17/64"	180
6-57/64"	7-5/64"	102	11-9/64"	11-21/64"	131
6-15/16"	7-1/8"	158	11-5/32"	11-15/32"	137
7-1/64"	7-13/64"	157	11-3/16"	11-3/8"	171
7-1/4"	7-7/16"	106	11-9/32"x5/16"	11-15/32"x5/16"	131W
7-9/32"	7-15/32"	156	11-3/8"	11-9/16"	134
7-13/32"	7-19/32"	177	11-25/64"	11-37/64"	136
7-15/32"	7-21/32"	103	11-7/16"	11-5/8"	173
7-1/2"	7-11/16"	105	11-21/32"	11-27/32"	194
7-35/64"	7-23/32"	155	11-3/4"	11-15/16"	141
7-11/16"	7-7/8"	107	11-13/16"	12"	143
7-3/4"	7-15/16"	174	11-57/64"	12-5/64"	138
7-15/16"	8-1/8"	111	12-1/32"	12-7/32"	154
8-1/64"	8-13/64"	104	12-3/32"	12-1/4"	142
8-1/32"	8-7/32"	159	12-7/32"	12-13/32"	140
8-3/32"	8-9/32"	113	straight belt	12-7/16"-str. belt	193
8-3/16"	8-3/8"	172	12-9/32"	12-15/32"	139
8-13/64"	8-25/64"	162	12-15/32"	12-21/32"	144
8-15/64"	8-27/64"	114	12-1/2"	12-11/16"	178
8-25/64"	8-37/64"	110	12-39/64"	12-51/64"	145
8-1/2"	8-11/16"	109	12-13/16"	13"	168
8-39/64"	8-51/64"	153	13-3/16"	13-3/8"	146
8-21/32"	8-27/32"	108	14-7/32"	14-13/32"	186
8-43/64"	8 55/64"	112	14-27/64"	14-39/64"	147
8-11/16"	8-7/8"	160	14-33/64"	14-3/4"	148
8-13/16"	9"	167	14-57/64"	15-5/64"	151
9-1/16"	9-1/4"	117	15-1/64"	15-13/64"	149
9-13/64"	9-25/64"	115	15-17/64"	15-29/64"	187
9-19/64"	9-31/64"	163	15-7/16"	15-5/8"	183
9-5/16"	9-1/2"	116	15-13/16"	16"	182
9-17/32"	9-23/32"	119	straight belt	16" - str. belt	192
9-7/8"	10-1/16"	123	15-61/64"	16-9/64"	150
9-59/64"	10-7/64"	127	16-19/64"	16-31/64"	170
9-61/64"	10-9/64"	126	16-27/64"	16-39/64"	184
10-1/4"	10-7/16"	164	16-15/16"	17-1/8"	185
10-17/64"	10-29/64"	124	17-1/16"	17-1/4"	165
10-19/64"	10-31/64"	128	17-13/32"	17-19/32"	169
10-23/64"	10-35/64"	118	17-37/64"	17-49/64"	179
10-3/8"	10-9/16"	122	17-5/8"	17-13/16"	190
10-25/64"	10-37/64"	125	18-1/2"	18-11/16"	189
10-1/2"	10-11/16"	152	18-9/16"	18-3/4"	181
10-41/64"	10-53/64"	129	19-7/16"	19-5/8"	166
10-11/16"	10-7/8"	121	19-47/64"	19-59/64"	188
10-45/64"	10-57/64"	120	21-5/16"	21-1/2"	175
10-27/32"	11-1/32"	180	22-35/64"	22-47/64"	176
10-61/64"	11-9/64"	133	22-19/64"	22-61/64"	191
10-31/32"	11-5/32"	132			

G-C RADIO DIAL GLASS CRYSTALS

"For Replacing Broken Crystals on Radio Sets and Instruments"



Round Convex replacement glass crystals for Radio Dials, Auto Radios, Clocks, Instruments, Panels, Dash Boards, etc. Sixty-one sizes available. Have a complete kit on hand.

No.	List Price
DC65—Assorted kit of 65 Crystals	$24.50
DC25—Assortment 25 most Popular Crystals	9.50

No.	Diam.	List Price	No.	Diam.	List Price	No.	Diam.	List Price	No.	Diam.	List Price
25	1¾"	$0.35	40	3¾"	$0.35	55	5⅝"	$0.45	70	7½"	$0.50
26	1⅞"	.35	41	3⅞"	.35	56	5¾"	.45	71	7⅝"	.50
26A	2"	.35	42	4"	.45	57	5⅞"	.45	72	7¾"	.50
27	2⅛"	.35	43	4⅛"	.45	58	6"	.45	73	7⅞"	.50
28	2¼"	.35	44	4¼"	.45	59	6⅛"	.45	74	8"	.50
29	2⅜"	.35	45	4⅜"	.45	60	6¼"	.45	75	8⅛"	.60
30	2½"	.35	46	4½"	.45	61	6⅜"	.45	76	8¼"	.60
31	2⅝"	.35	47	4⅝"	.45	62	6½"	.45	77	8⅜"	.60
32	2¾"	.35	48	4¾"	.45	62A	6⅝"	.45	78	8½"	.60
33	2⅞"	.35	49	4⅞"	.45	63	6⅞"	.45	79	8⅝"	.60
34	3"	.35	50	5"	.45	64	6¾"	.45	80	8¾"	.60
35	3⅛"	.35	51	5⅛"	.45	66	7"	.50	81	8⅞"	.60
36	3¼"	.35	52	5¼"	.45	67	7⅛"	.50	82	9"	.60
37	3⅜"	.35	53	5⅜"	.45	68	7¼"	.50	83	9⅛"	.60
38	3½"	.35	54	5½"	.45	69	7⅜"	.50	84	9¼"	.60
39	3⅝"	.35									

GENERAL G-C CEMENT Radio Dial Cables

G-C SERVICEMENS' DIAL CABLE RACKS

A new convenient way to handle Radio Dial Cables. Hang the rack on the wall and measure the cable as required. Each rack has a permanent 10-inch ruler lithographed on the attractive metal sign. Special feature of rack is, that each spool winds separately without disturbing the other spools. Two racks hold all the cables you need.

No. 2 — POPULAR RACK

(Free Racks with each assortment.)

No. 7-B-25 —Cable deal includes rack, ruler and 5-25 ft. spools each of Nos. 72, 73-X, 74L, 78 and 79 cables.
List Price......$4.60 **Dealers Net......$2.76**

No. 7-B-50 —Same as 7B-25 except 50 ft. spools of cable.
List Price.....$8.80 **Dealers Net.....$5.28**

No. 7-B-100—Same as 7B-25 except 100 ft. spools of cable.
List Price....$16.05 **Dealers Net.....$9.63**

GENERAL G-C CEMENT
RADIO DIAL CABLES

No. 1—MOST POPULAR RACK

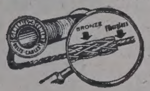
(Free Racks with each assortment.)

No. 7-A-25 —Cable deal includes rack, ruler and 5-25 ft. spools each of Nos. 71, 73, 74, 75, and 76 cables.
List Price.....$5.10 **Dealers Net.....$2.95**

No. 7-A-50 —Same as 7A-25, except 50 ft. spools of cable.
List Price.....$9.80 **Dealers Net.....$5.83**

No. 7-A-100—Same as 7A-25 except 100 ft. spools of cable.
List Price....$17.70 **Dealers Net.....$9.95**

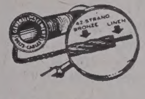
G-C BRAIDED BRONZE GLASS CORE CABLE



Very high quality Braided Bronze cable with fibre glass core for extra strength.

No.	Spool	List Price
70-25	25 ft.	$1.15
70-50	50 ft.	2.25
70-100	100 ft.	4.00
70-500	500 ft.	16.00
70-1000	1000 ft.	32.00

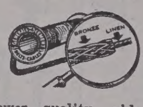
G-C 42 STRAND PHOSPHOR BRONZE CABLE



Highest Grade cable made of 42 strands and constructed over a linen thread center.

No.	Spool	List Price
71-25	25 ft.	$ 1.15
71-50	50 ft.	2.25
71-100	100 ft.	4.00
71-500	500 ft.	16.00
71-1000	1000 ft.	32.00

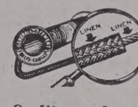
G-C BRAIDED BRONZE CABLE



A lower quality cable than the No. 71, but a cable that will give good service. Braided Prosphor Bronze Cable.

No.	Spool	List Price
72-25	25 ft.	$ 0.85
72-50	50 ft	1.65
72-100	100 ft.	3.15
72-500	500 ft.	13.50
72-1000	1000 ft.	25.00

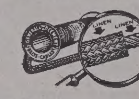
G-C HEAVY LINEN CABLE



Best Quality cord, same as used in Philco, Silver Marshall, Brunswick, and others. Made of finest Black Linen Braided.

No.	Spool	List Price
73-25	25 ft.	$ 1.30
73-50	50 ft.	2.50
73-100	100 ft.	4.50
73-500	500 ft.	20.00
73-1000	1000 ft.	35.00

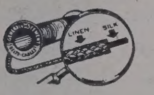
G-C EXTRA HEAVY LINEN CABLE



A heavier cable than our No. 73. This is the same type and weight of cable used on Philco receivers.

No.	Spool	List Price
73X-25	25 ft.	$ 1.30
73X-50	50 ft.	2.50
73X-100	100 ft.	4.50
73X-500	500 ft.	20.00
73X-1000	1000 ft.	35.00

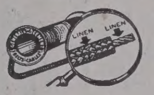
G-C LIGHT LINEN CABLE
Black Silk Core



Highest quality Light Cord, exactly as used in RCA, Wells-Gardner, Majestic, Sonora and others. Made of finest Black Silk Braided. The strongest cable available.

No.	Spool	List Price
74-25	25 ft.	$ 1.15
74-50	50 ft.	2.25
74-100	100 ft.	4.00
74-500	500 ft.	15.00
74-1000	1000 ft.	25.00

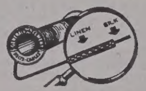
G-C LIGHT LINEN CABLE
Linen Core



A very high grade linen cable. Used for original equipment on many of the older type sets. Has a strong linen core with a closely braided and treated covering to minimize wear.

No.	Spool	List Price
74L-25	25 ft.	$ 1.15
74L-50	50 ft.	2.25
74L-100	100 ft.	4.00
74L-500	500 ft.	15.00
74L-1000	1000 ft.	25.00

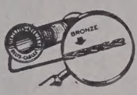
G-C SPECIAL THIN-LINEN CABLE



A strong, extra-thin linen cable for replacement where a very thin cord must be used. Braided of finest black linen.

No.	Spool	List Price
75-25	25 ft.	$ 0.75
75-50	50 ft.	1.40
75-100	100 ft.	2.60
75-500	500 ft.	10.00
75-1000	1000 ft.	18.00

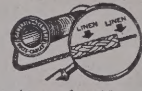
G-C SPECIAL LIGHT BRONZE CABLE



A high Quality Special Thin Phosphor Bronze Braided Cable exactly the same as used on RCA and GE sets.

No.	Spool	List Price
76-25	25 ft.	$ 0.85
76-50	50 ft.	1.65
76-100	100 ft.	3.15
76-500	500 ft.	13.50
76-1000	1000 ft.	25.00

G-C WHITE BRAIDED LINEN CORD



Same type of cable as used on Emersons. A light colored tightly braided linen cable. Very strong and durable.

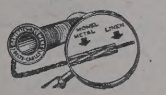
No.	Spool	List Price
78-25	25 ft.	$ 0.85
78-50	50 ft.	1.65
78-100	100 ft.	3.15
78-500	500 ft.	13.50
78-1000	1000 ft.	25.00

G-C READY MADE DIAL CABLES

Make of Set and Model No.		List Price
R1	Atwater Kent, 35, 37	$.25
R2	Atwater Kent, 44	.40
R3	Atwater Kent, 46	.25
R4	Atwater Kent, 55	.25
R5	Bosch, 48A	.25
R6	Bosch, 58, 60	.25
R7	Brunswick, 15, 22 Front	.40
R8	Brunswick, 15, 22 Rear	.40
R9	G.E., A88, A82, A87	.20
R10	Majestic, 70, 71, 72.	.20
R11	Majestic, 15B Lazy Boy	.25
R12	Majestic, 52, 60	.25
R13	New Majestic, 60, 620	.25
R14	Philco, 71	.25
R15	Philco, 91	.25
R16	RCA, 44, 46, 47	.30
R17	RCA, 16, 17, 18, 33.	.30

Cables available for other models also; state Make and Model when ordering or send in old cable.

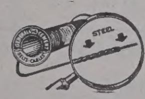
G-C MONEL METAL DIAL CABLE



A very high grade monel metal cable. It will not ravel, is very strong, won't stretch, and solders very easily. Preferred by many to the popular phosphorous bronze cables.

No.	Spool	List Price
79-25	25 ft.	$ 1.00
79-50	50 ft.	1.90
79-100	100 ft.	3.50
79-500	500 ft.	14.00
79-1000	1000 ft.	26.00

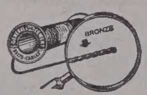
G-C EXTRA-THIN METAL CABLE



A strong extra-thin metal cable, now becoming popular. Used especially in the foreign market. Thinner than our No. 76 cable.

No.	Spool	List Price
80-25	25 ft.	$ 1.15
80-50	50 ft.	2.25
80-100	100 ft.	4.00
80-500	500 ft.	16.00
80-1000	1000 ft.	32.00

G-C SPECIAL EXTRA THIN PHOSPHOR BRONZE CABLE
Diameter .012″



Special thin cable made of 7 strand of .004″ twisted phosphor bronze cable. Used by Army and Navy on Radio, Radar Equipment and special instruments.

No.	Spool	List Price
82-25	25 ft.	$ 1.15
82-50	50 ft.	2.25
82-100	100 ft.	4.00
82-500	500 ft.	16.00
82-1000	1000 ft.	32.00

G-C PHOSPHOR BRONZE BELTING

Same belting as used on Atwater Kents, Colonial, Steinite, Crosley and others. 3/16″ wide x .005″ thick.

No.	List Price
61-25—25 ft. spool	$1.30

Bronze Belting same as used on Brunswick and Silver Marshall. 5/16″ x .006″ thick.

62-25—25 ft. spool......$1.90

G-C SERVICE MEN'S DIAL CABLE KIT No. 1

RADIO DIAL CABLE
RADIO DIAL CABLE
RADIO DIAL CABLE
RADIO DIAL CABLE

Kit contains: Four 25 ft. spools of popular type Dial Cable—42 strand Bronze, Special thin GE - RCA Cable, Light and Heavy Linen Cable.
FREE assortment of Eyelets and Clamps with Kit.

No.	List Price
77-SK—Cable Kit	$4.35

G-C SERVICE MEN'S CABLE KIT No. 2

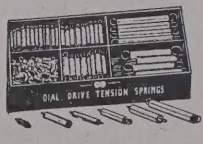
SERVICE MEN'S DIAL CABLE KIT

A handy combination Kit of 10 ft. lengths of all 12 G-C dial cables listed above. Each type in a separate envelope, and all packed in a leatherette box.

No.	List Price
78-SK—Complete Kit	$4.25

G-C DIAL DRIVE SPRING ASSORTMENT

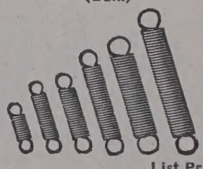
Kit of Dial Drive Tension Springs.



Six sizes supplied to handle all sets.

No.		List Price
1054	—10 assorted	$0.40
1054-D	—Display—20 Env. Reg. Springs	8.00
1054-S	—10 Small Springs	.40
1054-S-D	—Display—20 Env. Small Springs	8.00
1055	—Kit of 25 assorted Springs.	1.00
1056	—Kit of 100 assorted Springs.	3.50
Any size each		.05

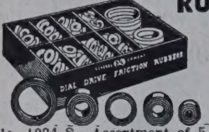
G-C DIAL DRIVE SPRINGS
(Bulk)



No.		List Price Per 100
T1	Spring, ⅛″ x ½″	$3.85
T2	Spring, ⅛″ x 1″	3.85
T3	Spring, 3/16″ x 1″	3.85
T4	Spring, 3/16″ x 1⅜″	3.85
T5	Spring, ¼″ x 1½″	3.85
T6	Spring, ¼″ x 2″	4.15
Any size—each		.05

GENERAL G-C CEMENT Service Aids - Tools

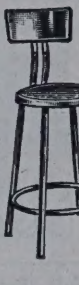
G-C RADIO AND PHONOGRAPH RUBBER DRIVES

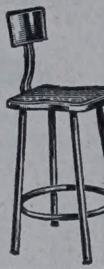


Specially made for Atwater Kent, RCA, Stewart Warner, Olsen, Kennedy, Emerson and others. Best quality live rubber drives.

	List Price
No. 1024-S—Assortment of 5 Small Dial Drives	$0.40
No. 1024-S-D—Display—20 Env. of 1024-S	8.00
No. 1024-L—Assortment of 5 Large Dial Drives	.40
No. 1024-L-D—Display—20 Env. of 1024-L	8.00
No. 1024 —Assortment of 10 Dial Drives	.80
No. 1024-D—Display—24 Env. of 1024	19.20
No. 1025 —Box of 25 Assorted Drives	1.50
No. 1026 —Box of 100 Assorted Drives	6.00
No. 1—AK small, part No. 1568L	.10
No. 2—AK large, for gear Part No. 17961	.10
No. 3—Stewart-Warner-113, 114 Converter	.10
No. 4—Kennedy 26, 34, 36 and Wells-Gardner 2-22 Series	.10
No. 5—Stewart-Warner 105-120	.10
No. 6—RCA all numbers	.10
No. 7—Stewart-Warner 102-104	.10
No. 8—Stewart-Warner 105-120 Small	.10
No. 9—Atwater-Kent Part No. 27333 for models 465, 655Q, 768Q, 978Q	.10
No. 10—Stewart-Warner 126	.10
No. 11—Large Atwater-Kent for part number 27332 for models 465Q, 655Q, 768Q, 978Q	.10
No. 12—Emerson-Majestic grooved Rubber. Fits ¼" shaft	.10
No. 13—Small AK, for Part Number 27332	.10
No. 15—Philco Part No. 42-2346	.25
No. 16—Phono Drive for General Industries RX-LX Motors	.25
No. 17—Phono Drive for Alliance Model 80 and Motorola	.25
No. 18—Phono Drive for RCA	.15
No. 19—Phono Drive for Philco, RCA, etc.	.15
No. 20—Phono Drive for Detrola	.40

G-C HEAVY DUTY STEEL STOOLS AND CHAIRS





G-C new type modern Tubular construction makes these stools outstanding in appearance and durability. Stools are all made of all welded construction that will last a life time. Back rests are adjustable to fit back. Seats are made of Tempered Masonite.

STOOLS WITHOUT BACK REST—ROUND SEAT

	Seat Height	List Price
No. 408	18"	$7.75
No. 408-A	24"	8.10
No. 408-B	26"	9.50
No. 408-C	30"	9.80
Back Rest for above		4.00

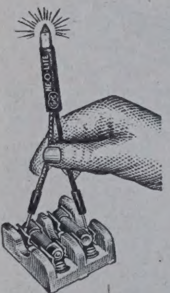
STOOLS WITH BACK REST—ROUND SEAT

	Seat Height	List Price
No. 409	18"	$11.70
No. 409-A	24"	12.10
No. 409-B	26"	13.50
No. 409-C	30"	14.25

CHAIR WITH BACK REST—SQUARE SADDLE SEAT

	Seat Height	List Price
No. 410	18"	$15.50
No. 410-A	24"	15.95
No. 410-B	26"	16.95
No. 410-C	30"	17.95

G-C NE-O-LITE TESTER



Handy, inexpensive Ne-O-Lite tester that every Radio Man should have for testing A.C. Lines, polarity of A.C. or D.C., testing for blown fuses, tracing ground line in A.C., as a R.F. indicator Spark Plug tester and 101 other uses. Can be used on 60 V. A.C. to 500 V. A.C. or D.C.

20 to display

No.	Net Price
5100	$0.50*
5100-D—Display 20 Ne-O-Lites	10.00*

G-C Swedish Steel SPEAKER SHIMS

SWEDISH STEEL SPEAKER SHIMS

The best shims for centering voice coils. With steel shims adjustments can be made in a few minutes. Made of Swedish Steel, these are very flexible—a permanent tool. Kit consists of 4 sizes, put up in gold-lettered snap case. 16 shims to kit.

No.	List Price
701	$0.65
701-D—Display of 12	7.80

G-C Fibreloid SPEAKER SHIMS

FIBRELOID SPEAKER SHIMS

Handy tool for centering voice coils. Kit consists of 5 sizes of specially flexible and tough celluloid shims put up in gold-lettered snap case. Sizes marked—20 shims to kit.

No.	List Price
702	$0.60
702-D—Display of 12	7.20

G-C INSPECTION LITE

A HANDY NEW TOOL

LIGHT WHERE YOU WANT IT — 110v. AC or DC

Just the light for Service work in the field. Lights up those hard-to-see corners in Chassis and Refrigerators. Handy for coloring dial lite bulbs. Dip bulb in coloring and job is done.

No.	List Price
705	$1.50
705-D—Display 6 Lites	9.00
704—Replacement Bulb for 705	.15
704-S—Clear Plastic Shield—per bulb	.15

G-C "SPEEDEX" WIRE STRIPPER

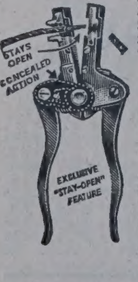
Fast operating precision made hand tool strips insulation from all types of wire. This stripper saves considerable time in Aviation Industry. Automotive Industry, Army, Navy, Signal Corps and Tank Corps. An ideal tool for Manufacturers, Electricians, Radio Men, Ignition Experts and Maintenance Men.

Speedex Wire Stripper can be used as a production tool on the bench or as a portable hand tool wherever needed. 750 to 1000 wires can be stripped per hour by girls or men.

Speedex Strippers are made to strip wire sizes No. 8 to No. 30. Hardened Steel precision ground cutting blades are interchangeable and can be purchased separately.

AUTOMATIC MODEL

With "stay open feature" for stripping fine stranded wires. Automatically holds jaws open until wire is removed. Strips all types fine stranded wire without crushing. Can also be used on solid wire.



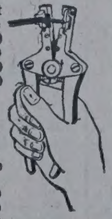
No.	Wire	List Price
744	12 to 20	$8.00
744-A	14 to 24	8.00
744-B	10 to 18	8.00
744-C	8 to 10	8.00

STANDARD MODEL

This is the most popular Speedex Model and is satisfactory for 90% of stripping jobs Illustrated on the right.

For sizes as listed below

No.	Wire	List Price
733	12 to 20	$6.00
733-A	14 to 24	6.00
733-B	10 to 18	6.00
733-C	8 to 10	6.00



Sizes below specially made for Aviation Industry and Aviation Stranded Wires. Cutters made to fit Wire sizes as listed, for perfect stripping without marring flexible Aviation Wires.

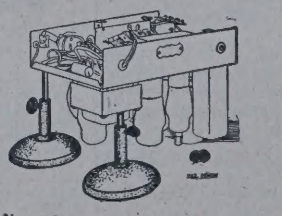
No.	Wire	List Price
744-D	16, 18, 20 22	$8.00
744-E	14, 16, 18	8.00
744-F	10, 12 14	8.00

No.	Wire	List Price
733-D	16, 18, 20, 22	$6.00
733-E	14, 16, 18	6.00
733-F	10, 12, 14	6.00

Speedex Automatic Stripper features completely enclosed positive action.

Shipping Weight
1 Lb. Each
Standard Carton
12 Strippers
Extra Cutting Blades—any size ... $1.50

G-C RADIO CHASSIS JACKS



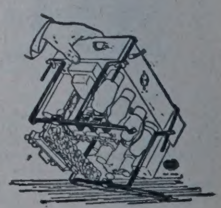
A practical tool for the Radio Bench. Have you ever tried to prop up a set with boxes, old parts, etc.? If you have, then you will appreciate these Jacks. They are quickly adjustable to fit any set, and can be used in any place. Made of metal, they will find a permanent place on your bench and will more than pay for themselves in time saved.

No.	List Price
711—Per Pair	$1.65

G-C RADIO CHASSIS GUARDS

"THE ANSWER TO THE RADIO MAN'S PROBLEM"

Inexpensive set of guards that will protect the chassis and tubes. When working on set, chassis can be turned in any position without damage to set or tubes. Adjustable to fit all sets. Easy applied.



No.	List Price
709—Chassis Guards complete per pair	$2.25

GENERAL G-C CEMENT

Switches - Insulation - Tape
Plugs - Grommets - Tubing

G-C Spring Action Bakelite Plug

Flat Handle grip approved plug. Spring contacts.

No.	List Price
860-Z—Brown	.....$0.15

G-C Spring Action Rubber Plug

Handle Grip approved plug. Spring contacts.

No.	List Price
861-Z—Black	....$ .15

G-C Spring Action Cube Tap

Bakelite cube tap that will stay in place because of Spring action features.

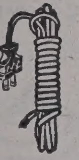
No.	List Price
862-Z—Brown	...$ .25

G-C Cube Cord Connector

Bakelite cord connection to fit on end of cord. make your own extensions.

No.	List Price
863Z—	..........$ .25

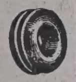
G-C Radio Cord Sets



Handy replacement cord sets ready to attach to Radio Sets and appliances. Made of approved Brown parallel wire with rubber plugs attached.

No.	List Price
886-P—7½ ft. cord	$.55

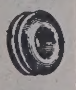
G-C Rubber Grommets



Live Rubber Grommets for protecting wires when passing through chassis or panel hole. Also make ideal cushions for condensers, sockets, etc.

No.	List Price
1039—15 assorted	$ .40
1039-D—Display—20 Env.	8.00
1040—Kit of 50 asst. Grommets.	.95
1041—For ¼" hole, 3/16" I.D., Per C	1.65
1042—For ⅜" hole, 9/32" I.D., Per C	1.95
1043—For ½" hole, ⅜" I. D., Per C	2.20

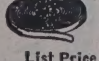
G-C Black Rubber Grommets



Suitable for protecting cables and wire from abrasion when passing through a panel hole where strain is not present.

No.	List Price
1044—15 assorted	$.40
1044-D—Display—20 Env.	8.00
1045—Kit of 50 asst. Grommets..	.80
1046—For ¼" hole, 3/16" I.D., Per C	1.25
1047—For ⅜" hole, 9/32" I.D., Per C	1.50
1048—For ½" hole, ⅜" I.D., Per C	1.85

G-C Radio Friction Tape

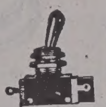


High quality friction tape specially made for Radio Work. Narrow cut eliminates tearing and waste.

No.	List Price
870—⅜" narrow—65 ft.	$. 35
871—¾" regular—½ lb.	.60

G-C Bat Handle Toggle Switches

TEAR DROP STYLE



Same as our regular toggle switch except that the handle is bat shaped. Is especially attractive for panel and instrument boards. ½" shank. Nickel Plated only. Made for G-C by H & H.

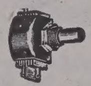
No.	Shank	List Price
1330—S.P.S.T.	½"	$.45
1331—S.P.D.T.	½"	.60
1332—D.P.S.T.	½"	.85
1333—D.P.D.T.	½"	1.00

G-C Toggle Switch Off-On Plate

Fits toggle type switches
Nickel or Bronze

No. 1329.............List Price $0.04

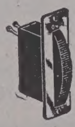
G-C Rotary Switches



Best grade rotary switches specially made for replacements, or construction of new apparatus. Underwriters approved. Rated at 3 amps. 125 volts. Made by H & H for G-C. Shafts 1½" long.

No. Description	Shank Length	List Price
1320—S.P.S.T.	⅜"	$ .48
1321—S.P.S.T.	1"	.58
1322—S.P.D.T.	⅜"	.60
1323—S.P.D.T.	1"	.75
1324—D.P.S.T.	1"	1.05
1325—D.P.D.T.	⅜"	1.10
1326—D.P.D.T.	1"	1.15

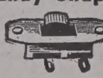
G-C Slide Switch



Same switch as used in latest test equipment and tube checkers. Attractive to modernize testers, panels, etc. Is 1" deep and fits hole 11/16" x 1¼". Rating 3 amps at 125 volts. Made by H & H for G-C.

No.	List Price
1341—S.P.S.T. Switch & Plate..	$1.15
1342—D.P.D.T. Switch & Plate..	1.45

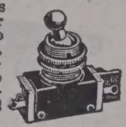
G-C Handy Snap Switch



The same switch that is used on many of the new sets. Used as a tone control, phono switch, circuit switch, etc. ½" wide—1⅛" between center mounting holes.

No.	List Price
1355—S.P.S.T.	$.24
1357—S.P.D.T.	.35
1358—D.P.S.T.	.35
1359—D.P.D.T.	.45

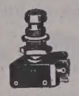
G-C Toggle Switches



High grade switches specially made for controlling Radio Sets, Small Motors, etc. The best switches made for the purpose. Underwriters approved. Rated at 3 amps, 125 volts. Made by H & H for G-C. Available in statuary bronze or nickel plated finish.

No.	Description	Shank Length	List Price
1300	S.P.S.T.	½"	$ .45
1301	S.P.S.T.	1"	.50
1302	S.P.D.T.	½"	.60
1303	S.P.D.T.	1"	.65
1304	D.P.S.T.	½"	.85
1305	D.P.S.T.	1"	.90
1306	D.P.D.T.	½"	.95
1307	D.P.D.T.	1"	1.00

G-C Push Button Switch



A two circuit slow make and quick break momentary contact switch One circuit is normally on and the other is off. Pushing the button reverses the circuits in use. Used on many testers and analyzers. Made by H & H for G-C Shaft ⅝" long.

No. 1340—Switch......List Price $.70

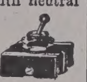
G-C Plastic Push Button.

For 1340 Switch
Red or Black (Specify Color)

No.	List Price
1343—Push Button	$ .25

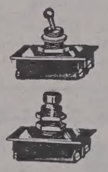
G-C Extra Heavy Duty Power Switch

For use in motors, projectors, transmitters, amplifiers, and movie equipment where heavy currents are carried. Made by H & H for G-C. Rated 10 amps. 125 volts. 3 types, with neutral off in center. Size—2"x1" x1⅝" sleeve ¾" diam.



No.	List Price
1352—D.P.D.T.	$5.00
1353—3.P.D.T.	7.50
1354—4.P.D.T.	11.00

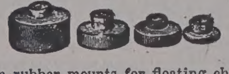
G-C Heavy Duty Power Switch



D. P. S. T. power switch. Capacity 12 amps. at 125 volts. Available in both toggle and push-button type. The push-button type is especially adaptable as a safety switch for transformers, high frequency work, etc. Made by H & H for G-C.

No.	List Price
1350—Toggle type	$1.35
1351—Push-button type	2.00

G-C Rubber Chassis Mounts



Live rubber mounts for floating chassis and speakers, to prevent microphonic noises.

No.	List Price
1038—10 Asst. Small	$ .40
1038-D—Display—20 Env.	8.00
1030—Kit of 25 assorted	1.65

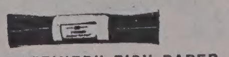
No.	Wide	High	each
1031	¾"	⅜"	.04
1032	¾"	7/16"	.05
1033	¾"	11/16"	.08
1034	1"	⅜"	.06
1035	1¼"	11/16"	.11
1036	1¼"	⅜"	.10
1037	¾"	9/32"	.04

G-C Laminated Bakelite

Genuine laminated Bakelite. Needed by all experimenters, amateurs and Radio men for insulating parts, terminal strips, building sets, etc. 1/16" stock in black.

No.	List Price
590—.6" x .6" x 1/16"	$ .50
591—.6" x 12" x 1/16"	.95
592—12" x 14" x 1/16"	2.20

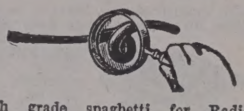
G-C Fyberoid



"PARAFFINED" FISH PAPER

No.	List Price
560—.010"—240 sq. in.	$ .50

G-C Radio Spaghetti

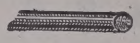


High grade spaghetti for Radio-Television work. Average dielectric strength — 5,000 volts. Very flexible. Colors: Black, Brown, Red, Green, Yellow.

No.	List Price
500—No. 20—fit 20 wire	$ .15
503—No. 17—fit 18 wire	.15
506—No. 14—fit 14 wire	.15
508—No. 12—fit 12 wire	.15
512—⅛" I.D.	.32
515—3/16" I.D.	.44
518—¼" I. D.	.56
521—⅜" I.D. (resist. size)	.69
522—7/16" I.D.	.94
523—½" I.D.	1.15

(All in 30" Lengths)

G-C Coated Sleeving



Improved Saturated Sleeving, lower price than regular spaghetti. Dielectric strength 2,000 volts.

No.	List Price
525—No. 20—fit 20 wire	$ .10
528—No. 17—fit 18 wire	.10
531—No. 14—fit 14 wire	.12
533—No. 12—fit 12 wire	.13
537—⅛"	.19
540—3/16"	.25
543—¼"	.31
546—⅜" (resistor size)	.44
547—7/16"	.50

(All in 30" Lengths)

G-C Resistor Sleeving

A special-size sleeving to fit over resistors to insulate them from chassis, parts, etc. ⅜" diam. 30-inch length. Black.

No. 556—Sleeving ....List Price $.31

G-C Spaghetti on Spools

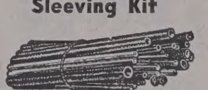
"5000 volt dielectric strength"

G-C
RADIO
SPAGHETTI

Best grade varnished tubing put on convenient 20-ft. spools. Will fit wire from No. 12 to No. 18.
Colors: Black, Red, Yellow, Green and Blue.

No.	List Price
499—20-ft. spool	$1.25

G-C Assorted Saturated Sleeving Kit



An assortment of 7½" lengths of saturated sleeving. 26 lengths to the kit. Sizes include from No. 17 wire to ⅜" I.D.

No.	List Price
550—26 lengths	$.65
550-D—Display—8 Kits	5.20

G-C Insulating Cambric

"Breakdown Voltage 10,000 volts"

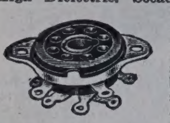
G-C
5000 VOLT
INSULATING
CAMBRIC
GENERAL CEMENT MFG. CO.

Dry yellow varnished cambric for field coils, transformers, chokes, resistors, etc.

No.	List Price
549—Roll, over 210 sq. in.	$ .60
549-D—Display—10 Rolls	6.00
548—36"x36" yd. any length	2.50

GENERAL G-C CEMENT Radio Hardware - Sockets

G-C Bakelite Sockets

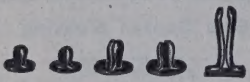


High quality molded bakelite sockets. High Dielectric. Sockets have plated bronze contacts and will not corrode. Three grounding lugs are on metal base of each socket, and are automatically grounded when the socket is installed. 1½″ mounting centers. 1-3/32″ mounting hole.

Standard R.M.A. Contact Spacings

No.	List Price
1524—4 prong	$.12
1525—5 prong	.12
1526—6 prong	.14
1527—7 prong, standard small	.14
1528—8 prong octal base	.14

G-C Snap-in Trimounts



Trimounts are used in place of screws to fasten dials, built in aerials, speakers and other parts. Have replacements on hand.

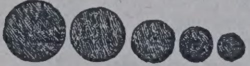
No.	List Price
1719— 30 asst.	$ .40
1719-D—Display—20 Env.	8.00
1720—100 assorted types	1.10
1721—100 Small	1.05
1722—100 Medium	1.10
1723—100 Large	1.10
1724—100 Extra Large	1.10

NEW LARGE SIZE ⅞″ LONG

Same as used on Philco, RCA, GE and other sets.

No.	List Price
1727—20 Trimounts	$0.40
1727-D—Display—20 Env.	8.00
1728—100 Trimounts	1.75

G-C Voice Coil Dust Felts

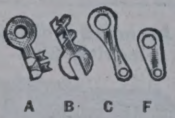


Felt discs same as used on speaker voice coils to keep dust out of voice coils. Can be glued on to any speaker cone Use G-C Service Cement to apply.

20 to display

No. 1079—Env. of 25..	List Price $.40
No. 1079-D—Display—20 Env....	8.00

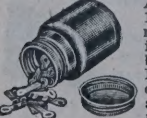
G-C Soldering Lugs



Best quality tinned lugs available for all types of repair work and manufacture of new equipment

No.		List Price
1021-A	per 1000	$7.50
1021-B	per 1000	7.50
1021-C	per 1000	7.50
1021-F	per 1000	7.50

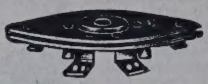
G-C Solder Lug Assortment



An assortment of 100 of the most necessary soldering lugs needed by the Radio Man, "Ham", or experimenter. Lugs are tinned, and neatly stamped.

No. 1019— 50 asst.	List Price $.40
No. 1019-D—Display—20 Env....	8.00
No. 1020—100 asst.	List Price .75

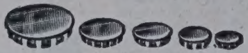
G-C Wafer Sockets



High grade laminated bakelite sockets with positive contacts. 1-11/16″ mounting centers on glass type sockets and 1-5/16″ mounting centers on Octal and Loctal base sockets. Standard spacings.

No.	List Price
1534 —4 prong	$.10
1535 —5 prong	.12
1536 —6 prong	.12
1537 —7 prong-small	.12
1537-L—7 prong-large	12
1538 —8 prong-Octal	.15
1538-L—8 prong-Loctal	.15

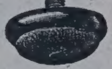
Snap Button Hole Plugs



The plug so popular on many sets to seal adjustments, cover holes, etc. Will fit in any material up to 1/16″ thick.

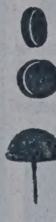
No.	List Price
1710—50 assorted plugs in box..	$2.25
1716—10 assorted	.40
1716-D—Display—20 Env.	8.00
1711—⅜″ hole dia., per 10	.35
1712—½″ hole dia., per 10	.45
1713—⅝″ hole dia., per 10	.50
1714—¾″ hole dia., per 10	.50
1715—1¼″ hole dia., per 10	.80

G-C Screw Type Chassis Felt Feet



				List Price
1086-A—10 Asst. Felt Feet				$0.40
1086—½″ dia.	Wd. screw		doz.	.50
1087—½″ dia.	6-32 screw		doz.	.50
1088—¾″ dia.	Wd. screw		doz.	.65
1089—¾″ dia.	10-32 screw		doz.	.65
1086-D—Display—20 Env.				8.00

G-C Felt & Rubber Bumpers



Used on the bottoms of radios and appliances.

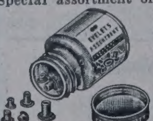
Felt Pads

No.	List Price
1069— 40 in env.	$.40
1069-D—Display—20 Env.	8.00
1071—100 in env.	.60

Rubber Tack Bumpers

No.	List Price
1075—18 in env.	$.40
1075-D—Display—20 Env.	8.00
1076—25 in env.	.50
1077—per 100	1.50

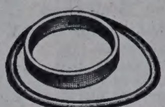
G-C Rivet and Eyelet Assortment



Special assortment of 100 popular size rivets and eyelets. For riveting sockets and parts to chassis, making electrical connections on appliances, etc. Nickel plated.

No.	List Price
1027—55 assorted	$.40
1027-D—Display—20 Env.	8.00
1029—100 in jar	.55

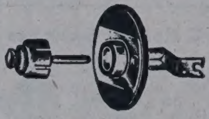
G-C Vacuum Cleaner Belts



Profit by displaying a card of Vacuum Cleaner Belts. Every Home is a potential customer. Belts made of the very finest grade of live rubber.

No.	List Price
1010-D—Display—24 Belts	$3.60
1011—Hamilton Beach Belt, G.E., Premier, etc.	.11
1012—Hoover Flat Belt	.13
1013—Hoover Rubber round type	.27

G-C RCA Pin Plug and Jack

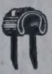


Used on various types of RCA equipment, but adaptable to all sets and purposes. A fine auto-radio antenna connector.

No.	List Price
1742—Midget Pin Plug	$.11
1743—Midget Shielded Jack	.17

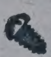
G-C Insulated Bell Staples

Saddle type insulated staples for holding wires in place and out of the way.



No.	List Price
No. 1—3/16″ x ½″	
1701—Box of 50	$.15
1702—Box of 100	.25
No. 5—¼″ x ⅝″	
1703—Box of 50	$.15
1704—Box of 100	.25
No. 3—3/16″ x ¾″	
1705—Box of 50	$.15
1706—Box of 100	.25
No. 6—¼″ x ¾″	
1707—Box of 50	$.17
1708—Box of 100	.30

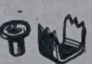
G-C Escutcheon Plate Screws



Bronze plated wood screws such as are used for attaching escutcheon plates to cabinets.

No.	List Price
1090—Assortment of 100 in jar ..	$.60
1090E—60 assorted	.40
1090-D—Display—20 Env.	8.00
1091—No. 1—¼″ length, per doz. in envelope	.12
1092—No. 1—⅜″ length, per doz. in envelope	.12
1093—No. 2—⅜″ length, per doz. in envelope	.12

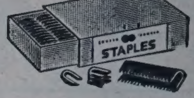
G-C Eyelet and Clamp Assortment



The same eyelets and clamps used on READY MADE CABLES. Make your own cables and belts— AND SAVE!

No.	List Price
1028—60 asstd. pieces	$.40
1028-D—Display—20 Env.	8.00

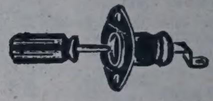
G-C Staple Driver Staples



Hardened Steel—Best quality staples in cartridge form to fit Staple Drivers. Lacquer coated, rust-proof steel.

No.	List Price
430—approximately 250 staples to box	$.49

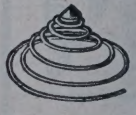
G-C Pin Plug and Jack



Specially shielded—positive connection plug and jack for auto radio, etc. Motorola type. Adaptable to all types of sets.

No.	List Price
1740—Shielded Pin Plug	$.11
1741—Shielded Jack	.22

G-C Hub Cap Wheel Static Eliminator

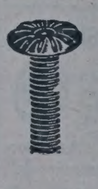


Eliminates static noises in front wheels of car. Spring is made with metal point for sure contact.

No.	List Price
1058—Each	$ .10
1059—Box of 24	2.10

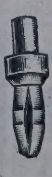
G-C Ornamental Head Screws

A Rosette head, statuary Bronze head screw. 5/16″ head with a 6-32 thread.



No.	List Price
1094—25 asst.	$.40
1094-D—Display—20 Env.	8.00
1095—Assortment of 50 in jar	.50
1096—Assortment of 100 in jar	.90
1097—¾″ length, per dozen	.12
1098—1″ length, per dozen	.14
1099—1¼″ length, 8-32 thd, per doz.	.17

No.	
295—100 Nickel Pltd. Nuts in Jar	.50



G-C Banana Pin Plugs

Approved silver plated plugs. Can be used for many purposes. Ideal for multiple plugs and cords, test equipment, etc.

No.	List Price
6400—Env. 10 Plugs ..	$0.40
6400-D—Display—20 Env.	8.00

GENERAL G-C CEMENT

Screws - Nuts - Washers Springs - Brackets - Clamps

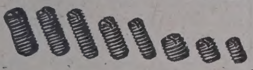
G-C HEXAGON NUTS

No. List Price
293—Env. 40 Asst'd Nuts ...$0.40
293-D—Display Card—20 Env. 8.00

NUTS PUT UP IN HANDY JARS.

Cat. No.	Size	Quantity in Jar	List Price per Jar	List Price Bulk per 1000
6045	4-36	100	$0.60	$3.25
6046	6-32	90	.60	3.80
6047	8-32	80	.60	4.50
6048	10-32	50	.60	5.00

G-C KNOB SET SCREWS



No. List Price
1062—Env. 20 Asst'd Screws $0.40
1062-D—Display Card—20 Env...............8.00

G-C HARDENED SET SCREWS ARE PUT UP IN HANDY JARS

Cat. No.	Size	Quantity in Jar	List Price per Jar	List Price Bulk per 1000
6071	6-32 x ⅛"	30	$0.60	$18.00
6072	6-32 x 3/16"	30	.60	18.00
6073	6-32 x ¼"	30	.60	18.00
6074	8-32 x ⅛	30	.60	18.00
6075	8-32 x 3/16"	30	.60	18.00
6076	8-32 x ¼"	30	.60	18.00
6077	8-32 x ½"	30	.60	18.00
6078	10-32 x 3/16"	30	.60	18.00
6079	10-32 x ¼"	30	.60	18.00

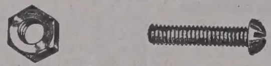
G-C SHEET METAL SELF TAPPING SCREWS

No. List Price
297—Env. 40 Asst'd Screws......$0.40
297-D—Display Card—20 Env..... 8.00

HARDENED ROUND HEAD SHEET METAL SCREWS TAP THEIR OWN THREAD IN METAL. PUT UP IN HANDY JARS.

Cat. No.	Size	Quantity in Jar	List Price per Jar	List Price Bulk per 1000
6090	4 x ½"	50	$0.60	$5.00
6091	6 x ¼"	50	.60	5.50
6092	6 x ⅜"	50	.60	5.75
6093	6 x ½"	50	.60	5.90
6094	6 x ¾"	50	.60	5.75
6095	8 x ⅜"	50	.60	6.25
6096	8 x ½"	45	.60	7.50
6097	8 x 1"	40	.60	8.50
6098	10 x ⅜"	50	.60	7.50
6099	10 x ½"	45	.60	8.00
6100	10 x ¾"	40	.60	9.00

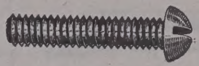
G-C MACHINE SCREW AND NUT ASSORTMENT



4-36; 6-32; 8-32; 10-32 Screws and Nuts

No. List Price
6038—Env. 25 Screws—25 Nuts..............$0.40
6038-D—Display—20 Env. 8.00

G-C MACHINE SCREWS



No. List Price
296—Env. 50 Asst'd Screws................$0.40
296-D—Display Card—20 Env. 8.00

ROUND HEAD NICKEL PLATED MACHINE SCREWS. PUT UP IN HANDY JARS.

Cat. No.	Size	Quantity in Jar	List Price per Jar	List Price Bulk per 1000
6005	4-36 x ¼"	100	$0.60	$2.50
6006	4-36 x ½"	100	.60	3.00
6007	4-36 x ¾"	80	.60	3.50
6008	6-32 x ¼"	90	.60	2.60
6009	6-32 x ½"	85	.60	3.00
6010	6-32 x ¾"	75	.60	3.50
6011	6-32 x 1"	50	.60	4.00
6014	8-32 x ⅜"	75	.60	3.50
6015	8-32 x ½"	70	.60	4.00
6016	8-32 x ¾"	65	.60	4.30
6017	8-32 x 1"	45	.60	5.00
6020	10-32 x ½"	60	.60	5.00
6021	10-32 x ¾"	50	.60	5.80
6022	10-32 x 1"	35	.60	6.00

G-C Fuse Clips

High quality clips for midget fuses, instruments, test equipment, etc.

No. List Price
6310—Env. 20 Clips $0.40
6310-D—Display—20 Env. 8.00

G-C Cup Washer Ass'tment

For panels, racks and cabinets. Will fit No. 6, 8 and 10 screws.

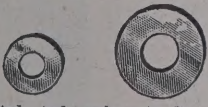
No. List Price
6159—Env. 40 Washers........$0.40
6159-D—Display—20 Env........ 8.00
6039—Env. 15 Screws, 15 Washers .40
6039-D—Display—20 Env. 8.00

G-C Steel Lock Washer Assortment

Steel lock washers for No. 4, 6, 8 and 10 screws.

No. List Price
1717—Env. 65 Washers $0.40
1717-D—Display—20 Env. 8.00

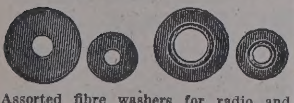
G-C Plain Steel Washer Assortment



Assorted steel washers to fit No. 4, 6, 8 and 10 screws.

No. List Price
6150—Env. 100 Washers $0.40
6150-D—Display—20 Env. 8.00

G-C Fibre Washer Assortment



Assorted fibre washers for radio and electrical work.

No. List Price
1718—Env. 60 Washers $0.40
1718-D—Display—20 Env. 8.00

G-C Wood Screw Ass'tment

Assorted wood screws for cabinets, panels, escutcheon plates, etc.

No. List Price
6110—Env. 40 Screws ..$0.40
6110-D—Display—20 Env. 8.00

G-C C-Washer Assortment

Steel C-Washers for volume controls, condensers, shafts, etc.

No. List Price
6180—Env. 50 Washers $0.40
6180-D—Display—20 Env. 8.00

G-C Cable Holder Clamps Assortment

Assorted clamps for fastening cables on P. A., Intercommunicating systems, etc.

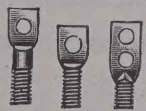
No. List Price
6250—Env. 25 Clamps $0.40
6250-D—Display—20 Env. 8.00

G-C Dial Cable Clips

Used on dial drive cord assemblies for all types of dial cable. Make your own special cords with these clips.

No. List Price
6220—Env. 50 Clips $0.40
6220-D—Display—20 Env. 8.00

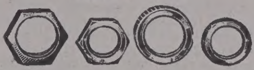
G-C Spade Bolt Assortment



Handy assortment for repairing coils, condensers, radio parts, etc.

No. List Price
6080—Env. 30 Bolts $0.40
6080-D—Display—20 Env. 8.00

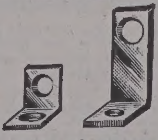
G-C Mounting Nut Assortment



Assorted nuts for switches, volume controls, shafts, etc.

No. List Price
6050—Env. 15 Assorted Nuts ...$0.40
6050-D—Display—20 Env. 8.00

G-C Angle and Bracket Assortment



Assorted angles and brackets for radio and electrical repair and construction work.

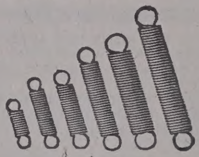
No. List Price
6260—Env. 15 Angles & Brackets $0.40
6260-D—Display—20 Env. 8.00

G-C Fahnestock Clips

Ideal clips for test equipment, battery connections and experimental work.

No. List Price
6300—Env. 20 Clips $0.40
6300-D—Display—20 Env. 8.00

G-C Expansion Spring Assortment



For dial drives, condensers, phono turntable motors, etc.

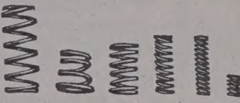
SMALL SPRING ASSORTMENT

No. List Price
6420—Env. 10 Springs $0.40
6420-D—Display—20 Env. 8.00

LARGE SPRING ASSORTMENT

6421—Env. 10 Springs $0.40
6421-D—Display—20 Env. 8.00

G-C Compression Spring Assortment



Used on dials, push button tuners, phono-motors, etc.

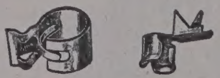
SMALL SIZE ASSORTMENT

No. List Price
6430—Env. 20 Springs..........$0.40
6430-D—Display—20 Env. 8.00

LARGE SIZE ASSORTMENT

6431—Env. 15 Springs $0.40
6431-D—Display—20 Env. 8.00

G-C Grid Cap Assortment



Assorted grid caps to fit all types of tubes. For Repairs and construction of new equipment.

NO. List Price
6290—Env. 16 Caps $0.40
6290-D—Display—20 Env. 8.00

GENERAL G-C CEMENT Radio Alignment Tools

G-C No. 5014 Alignment Tool

Made of Bone fibre, combination tool. Consists of Screw Driver with metal nib, ¼" Hex Wrench slotted and 5/16" Hex Wrench on other end.

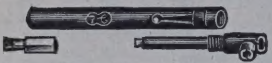
No. 5014 ....List Price $1.00

G-C No. 5015 Alignment Tool

Made of Bone Fibre, combination tool. Consists of Screw Driver with metal nib. 5/16" Hex Wrench, ¼" Hex Wrench slotted, with metal screw driver on one end.

No. 5015 .... List Price $1.35

G-C No. 5016 Alignment Tool



Made of Bone Fibre combination tool that can be used for most purposes. Consists of Screw Driver with metal nib, 5/16" Hex wrench, ¼" Hex side wrench and ¼" hex end wrench slotted.

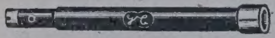
No. 5016 .... List Price $1.35

G-C Insulated Hex Wrench and Screw Driver

Combination hex wrench and insulated screw driver. The screwdriver may be extended from handle to provide extra long length.

No.		List Price
5005—extends from	7-13"	$.75
5005-D—Display 12 Tools		9.00
5006—extends from	11-17"	.95

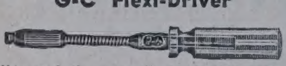
G-C Duplex Insulated Wrench Alignment Tool



Made of Bone Fibre with ¼" Hex Metal Wrench on one end and 5/16" Hex Metal Wrench on other end.

No. 5017 .... List Price $1.25

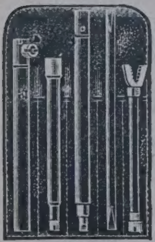
G-C Flexi-Driver



"Around the corner" Screw driver for Radio work. Insulated tips prevent "shorts" and guide the blade over screws for easy tuning. Approved by U.S. Army and Navy.

No. 5019 .... List Price $2.25

G-C NX-Aligning Kit



Approved by U.S. Army and Navy. Very Handy all purpose aligning and Neutralizing kit. Kit contains . . .

- 1 5004 screw driver
- 1 5011 aligator wrench
- 1 5017 Double end wrench
- 1 5015 Combination Tool
- 1 5016 Combination Tool
- 1 Leatherette Case

No. 5020—Kit........List Price $6.50

G-C No-Metal Insulating Adjustment Screw Driver

Made of Black Bone fibre. Indispensable for aligning all-wave sets. Will give long service. Ends can be reground.

No.	List Price
5004—7" long	$ .40
5004-D—Display 12 Tools	4.80

G-C Alignment Screw Driver

Low Inductance Metal Tip screw driver made of Genflex material—strong—durable, completely insulated, ¼" diameter x 6" long.

No. 5000 .... List Price $0.50
No. 5000-D—Display 12 Tools 6.00

G-C Duplex Alignment Screw Driver

Low Inductance Metal Tip on both ends made of "Genflex" material. One end is ¼" and other end is turned down to 7/32" diameter for small holes. Strong — Durable — completely insulated tool.

No. 5001.............List Price $0.75
No. 5001-D—Display 12 Tools 9.00

G-C RCA Aligning Tool

Made of ¼" Bone Fibre, narrow screw driver on one end and screw nib inserted on other end. Used on RCA sets and others.

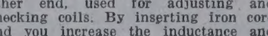
No. 5003 ....List Price$0.75
No. 5003-D—Display 12 Tools 9.00

G-C "Strato" Tuning Wand

Made of "Genflex" rod with Brass cylinder on one end and Iron core on other end, used for adjusting and checking coils. By inserting iron core end you increase the inductance and inserting brass end lowers inductance.

No. 5002 ....List Price $ 1.00
No. 5002-D—Display 12 Tools. 12.00

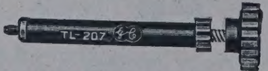
G-C Insulated Aligning Wrenches



Made of Bone Fibre Tubing, Hexed full length inside, so end of wrench can be cut off when worn out, and tool is as good as new again.

No.	Length	Hex Size across flats	Diam.	List Price
5051	5"	5/16"	7/16"	$.30
5052	5"	¼"	⅜"	.25
5053	6"	¼"	⅜"	.25
5054	8"	¼"	⅜"	.30
5055	12"	¼"	⅜"	.40
5053-D—Display 12—5053 tools				3.00
5054-D—Display 12—5054 tools				3.60

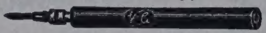
G-C Bakelite Neutralizing Tool—U.S. Army TL-207



Made of Bakelite. Combination Screw driver and 5/16" Hex wrench. Approved by U.S. Army Signal Corps.

No. 5027 .... List Price $2.25

G-C Test Prods "Solderless Type"



Handle is made of Red or Black "Genflex" material. Tip is made of brass nickel plated.

No.	Size and Color	List Price
5041	5¼" — Red	$0.40
5042	5¼" — Black	.40
5043	7¼" — Red	.50
5044	7¼" — Black	.50

G-C Alligator and Wrench Aligning Tool

Made of 7/32" Bone Fibre with alligator on one end and ¼" metal Hex Wrench on other end.

No. 5012 ....List Price $0.50
No. 5012-D—Display 12 Tools 6.00

G-C Alligator Wrench and Screw Driver

For RCA-Philco and others. Made of 7/32" Bone Fibre and strong metal wrench on one end and metal screw driver tip on other end.

No. 5011 ....List Price $0.50
No. 5011-D—Display 12 Tools 6.00

G-C Wrench and Screw Driver Aligning Tool

Made of 7/32" Bone Fibre with ¼" Hex Wrench on one end and Screw Driver with metal nib on other end.

No. 5013 ....List Price $0.75
No. 5013-D—Display 12 Tools 9.00

G-C Aligning Tool for Push Button Tuners

Socket Screw driver made of best steel. Handle made of Bone Fibre.

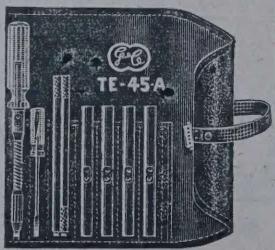
No. 5018 .... List Price $0.75

G-C Cable Eyelet Tool

Inexpensive riveting tool for riveting parts to chassis and for turning eyelets on dial cables and assemblies. Kit consists of a base which can be inserted in a vise and clincher punch for turning the rivets.

No.	List Price
741	$1.00

G-C TE-45A Neutralizing Kit

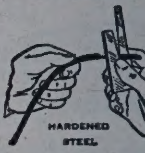


Approved by U.S. Army Signal Corps. The all purpose kit used extensively by Signal Corps. Kit contains . . .

- 1 5" Small Screw driver
- 1 No. 5019 Flexi-Driver
- 1 No. 5003 Tool
- 1 No. 5000 Tool
- 2 No. 5051 Tool
- 2 No. 5052 Tool
- 1 Leatherette Case

No. 5021—Kit ....List Price $7.50

New! G-C Wire Stripper



Sensational 5 in 1 tool made of hardened steel. Is a wire stripper, scraper, cutter, screw driver, and wire winder all in one. Save time by having one on your bench and one in your tool kit. A real tool!

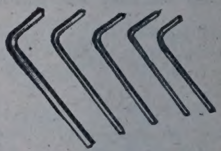
No.	24 to display	List Price
757—Wire stripper		$0.25

G-C Handy Pocket Tool Case

Wallet type pocket tool case; fits in the hip pocket. Will hold necessary tools required on job. Saves your pockets and the tools.

No.	List Price
703	$1.10

G-C Hexagon Key Wrenches

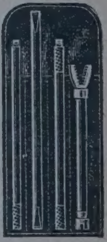


An essential item to every repair man. Made of special alloy steel, properly hardened.

No.	List Price
5030—Assortment 5 Hex Wrenches	$0.40
5030-D— Display 20 env.	8.00
5031—for No. 4 Screw	.10
5032—for No. 6 Screw	.10
5033—for No. 8 Screw	.10
5034—For No. 10 Screw	.10
5035—for ¼" Screw	.10

G-C Vest Pocket Aligning Kit

A very handy all purpose aligning kit. Kit contains . . .



- 1 5012 alligator and Hex wrench
- 1 5000 Screw driver
- 1 5003 RCA Screw driver
- 1 5004 Screw driver
- 1 Leatherette Case

No.	List Price
5022—Kit	$3.00

G-C Solder Iron Tips

Made of best grade hard drawn copper; will fit all makes Irons.

No.	diam. long	List Price
724—	¼" x 3"	$ .45
725—	5/16" x 4½"	.55
726—	⅜" x 4½"	.60
727—	7/16" x 4"	.75

CEMENTS — SOLVENTS COIL DOPE • WALSCO

WALSCO RADIO CEMENT

Vibration-Proof **Heat Resisting**

Unsurpassed Adhesive Power

WALSCO
W
RADIO CEMENT
WALTER L. SCHOTT CO.

An elastic cement especially made for the manufacture and repairing of speakers and for general radio work. Unaffected by vibration, dries fast and will never become brittle with age. • The latest developments in synthetic resins and gums are incorporated in Walsco Radio Cement, which is one of the strongest adhesives ever developed. • In addition to its use for speaker repair, Walsco Radio Cement can be used for repairing cabinets, loose tube bases, grid caps, etc. It will provide a strong bond between almost any materials and is not affected by high temperature, moisture or oil. All bottles come with built-in brush and have an evaporation-proof cap liner.

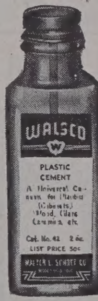
WALSCO
W
RADIO CEMENT
WALSCO
W
RADIO CEMENT

Cat. No.	Net Price
50—½ oz. bottle	$0.15
51—1¾ oz. tube	.25
52—2 oz. bottle	.30
54—4 oz. bottle	.54
58—8 oz. bottle	.96
59—1 pt. bottle	1.80
50-32—1 qt. can	3.00
50-GL—1 gal. can	7.50

Also available in 5, 15, 50 gal. containers.

PLASTIC CEMENT

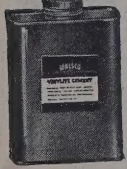
(Formerly "Multi-Use Cement")



Especially made to repair broken plastic cabinet knobs, grid caps, etc. Waterproof, heat-resisting, and heavier in substance than Walsco Radio Cement. Unexcelled as "Household Cement," "Model Airplane Cement," etc. Cements Plastics, Metal, Wood, Glass, etc. Dries fast and forms an exceedingly strong bond.

Cat. No.	Net Price
41—1¾ oz. tube	$0.25
42—2 oz. bottle	.30
44—4 oz. bottle	.54
48—8 oz. bottle	.96
40-32—1 qt. can	3.00
40-GL—1 gal. can	7.50

VINYLITE CEMENT (Thermoplastic)



For joining non-porous materials where ordinary cements will not do—the solvents can not evaporate. Highly recommended for cementing plastics, metals, etc. Parts to be joined are coated and the cement air or force dried. A bond is established by pressing parts together in a clamp or fixture and applying heat.

Cat. No.	Net Price
25 —2 oz. bottle	$0.42
25-32—1 qt. can	2.70
25-GL—1 gal. can	9.00

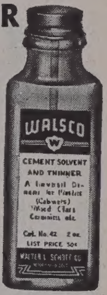
RUBBER CEMENT

WALSCO
W
RUBBER CEMENT
WALTER L. SCHOTT CO.

For cementing rubber parts to metal or wood, rubber mounts to chassis, rubber cushions to lids, etc.—gives an especially strong bond. A Radio Serviceman should always have a bottle on his work bench.

Cat. No.	Net Price
112—2 oz. bottle	$0.30
114—4 oz. bottle	.54

CEMENT SOLVENT & THINNER



This Cement-Solvent is used for loosening cement on speaker cones, voice coils, and other parts where cement has been applied previously. Recommended also for thinning Walsco Radio Cement, Plastic Cement, and Fabric Cement.

Cat. No.	Net Price
62—2 oz. bottle	$0.21
64—4 oz. bottle	.30
68—8 oz. bottle	.45
69—1 pt. bottle	.75
60-32—1 qt. can	1.20
60-GL—1 gal. can	3.00

CEMENT AND SOLVENT KIT

A handy kit, easy to carry in the tool box. Contains one 2-oz. bottle of Radio Cement and one 1-oz. bottle of Cement-Solvent-and-Thinner. One brush is built in the cement bottle cap. Extra brush is included. The most economical package for the servicemen and amateurs who do only occasional speaker repair work.

Cat. No. K-19............**Net Price $0.39**

FABRIC CEMENT

Does Not Penetrate the Fabric

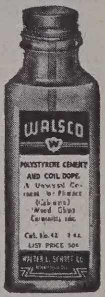
WALSCO
W
FABRIC CEMENT
WALTER L. SCHOTT CO.

Especially made for attaching grille cloth, turntable felt, covering of portable radios, etc. Dries very fast; is unaffected by moisture, sunlight, and high temperature and does not become brittle. Indispensable to Radio Dealers and Servicemen—eliminates the danger of spoiling the outside of a grille cloth, turntable felt, or other fabrics, since it does not penetrate the material itself.

Cat. No.	Net Price
21 —1¾ oz. tube	$0.25
21-32—1 qt. can	3.00
21-GL—1 gal. can	7.50

POLYSTYRENE CEMENT and COIL DOPE

For Bonding Polystyrene Parts and Coil Coating in Radio and High Frequency Work



A Polystyrene solution with a high solid content. Can be brushed on or parts can be dipped. Renders coils or other parts moisture-proof. Holds windings firmly in place due to a certain amount of shrinkage upon drying. Electrical losses due to coating with this cement are negligible—even if used for high or ultra-high frequency work.

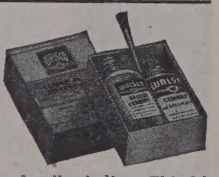
Cat. No.	Net Price
154—4 oz. bottle	$0.36
158—8 oz. bottle	.66
159—1 pt. bottle	1.20
150-32—1 qt. can	2.40
150-GL—1 gal. can	7.20

POLYSTYRENE SOLVENT AND THINNER

This thinner is especially designed for use with Walsco Polystyrene Cement where regular thinner can not be used.

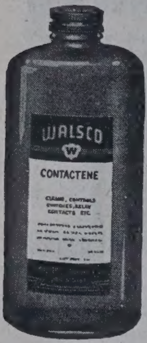
Cat. No.	Net Price
168 —8 oz. bottle	$0.45
160-32—1 qt. can	1.20
160-GL—1 gal. can	3.00

COIL DOPE KIT



A handy kit containing one 2-oz. bottle of Polystyrene Cement and Coil Dope, and one 1-oz. bottle of Special Thinner. Two brushes are included. Polystyrene Cement is non-hygroscopic; and due to its low-loss factor, ideal for use on high frequency work. It insures the highest stability in receivers and other electronic devices. It does not affect the electrical characteristics of coil winding. This kit is made for amateurs and experimenters who use only small quantities. **Cat. No. K-21**............**Net Price $0.39**

WALSCO • CLEANERS — LUBRICANTS DIAL OIL — LACQUER INSULATING VARNISH



WALSCO CONTACTENE

New Improved "Contact Cleaning Fluid"

- Cleans contacts and controls.
- Keeps controls and contacts noise-free.
- Lubricates and reduces friction.

A fast-evaporating combination of special solvents affording greatest cleaning power without affecting insulating materials. Contains liquified Walscolub B, which after evaporation of the solvents, forms a thin film that protects the contacts. Contactene is highly recommended for treating volume controls, band switches, tuning condensers, springs, etc., to eliminate noisy operation. Bottles come with built-in brushes.

Cat. No.	Net Price	Cat. No.	Net Price
80—½ oz. bottle	$0.09	89—1 pt. bottle	.99
82—2 oz. bottle	.21	80-32—1 qt. can	1.80
84—4 oz. bottle	.30	80-GL—1 gal. can	5.10
88—8 oz. bottle	.51		

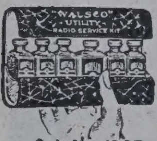
WALSCO
MOTOR & GEAR LUBRICANT

MOTOR & GEAR LUBRICANT

The latest development in chemicals for lubricating purposes. Much superior to greases because of its higher lubricating and lasting qualities. Its viscosity does not change with temperature. Used on phonograph motors, record changers, and all appliances that require a grease-type lubricant. In large handy "applicator" tube.

Cat. No. 23—1¾ oz. tube......Net Price $0.27

WALSCO ASSORTMENTS


"WALSCO" UTILITY RADIO SERVICE KIT

Utility Radio Service Kit

Radio Servicemen: Here is an article that, next to the screwdriver, is the most useful aid in radio repairing. Put up in a compact leather pocket kit are these items that the serviceman always needs on the job: one bottle each of Walsco Radio Cement, Contactene, Super Polish, Walnut Stain, No-Slip and Dial Oil. Brushes are "Built-in". The Kit fits any pocket.

Cat. No. K 25
Net Price $1.35

WALSCO
TUBE ASSORTMENT

Tube Assortment

A most convenient kit of Walsco chemicals put up in tubes. The sturdy box makes this assortment very handy to carry in the tool kit. Contains one tube each of Walsco Radio Cement, Fabric Cement, Plastic Cement, Walscolub B, and Motor-and-Gear Lubricant. You save more than 10% by purchasing these tubes in the assortment.

Cat. No. 115........Net Price $1.17

Thrifty Chemo-Kit

An assortment of those chemicals every radio man must have. Contains one 2-oz. bottle each of Walsco Radio Cement, Cement-Solvent, No-Slip, and Contactene. Packed in solid container. Very handy to carry in toolbox—and a saving of more than 25%.

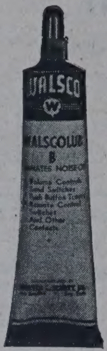
Cat. No. K-20..Net Price $0.81

WALSCO
INSULATING VARNISH

INSULATING VARNISH

Walsco "air-dry" varnish is fast-drying and produces excellent results when used on radio coils, transformers, solenoids, motors, and all electrical appliances. Withstands heat and is extremely resistant to acid, oil, and grease. It is non-corrosive and moisture-proof. An all-around clear, colored insulating varnish.

Cat. No.	Net Price
192—2 oz. bottle	$0.21
193—1 pt. can	.90
194—1 gal. can	5.40



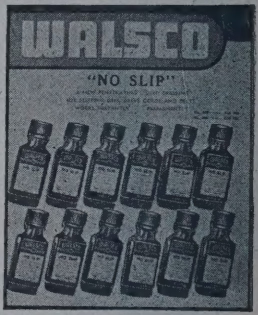
WALSCOLUB - B

A recently-developed chemical compound in thin paste form. WALSCOLUB - B counteracts oxidation, prevents corrosion of metals and eliminates noise on band switches, push buttons, tuners, volume and other controls, as well as air-exposed electrical contacts, attenuators, etc. WALSCOLUB-B will not change electrical properties. It is superior to any graphite compound or liquid dope for this purpose. Ideal on metal surfaces to prevent rust. Servicemen: Its use will save you both time and money. Once you have tried it, you will never be without it! Large, handy applicator tube.

Available also in 1-lb., 5-lb. and 25-lb. containers for industrial users. Prices on request.

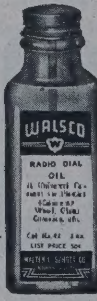
Cat. No. 22—1¾ oz. tube
Net Price $0.27

"NO-SLIP"



A newly developed chemical composition that greatly increases the friction of pulleys, cords or belts. Contracts, "sets" and shrinks the fibres at the same time. Stops instantly any slippage of Dial Belts, Dial Cords, etc. Easily applied with brush. Indispensable to any radio man.

Cat. No.	Net Price
401—½ oz. bottle	$0.21
402—2 oz. bottle	.45
400—1 pt. bottle	2.70

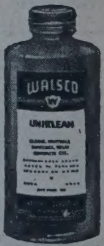


RADIO DIAL OIL

A light-bodied lubricating oil for all electronic and electrical appliances — absolutely free of acids or gummy substances. Also recommended as a rust preventative for radio chassis, tools, machinery, etc.

Cat. No.	Net Price
72—2 oz. bottle	$0.15
74—4 oz. bottle	.24
78—8 oz. bottle	.36

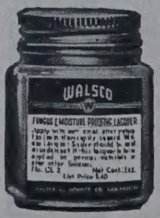
"UNIKLEAN"



Contains "Trichlorethylene," one of the most effective cleaning agents. Removes instantly dirty spots and grease from cabinets, chassis, panels, etc., without damaging the finish. "Uniklean" is economical and effective. Be thrifty—buy pints or gallons.

Cat. No.	Net Price
204—4 oz. bottle	$0.24
209—1 pt. bottle	.72
200—1 gal. cans	2.85

FUNGUS & MOISTURE-PROOFING LACQUER



The latest development in lacquer which meets U. S. Army Signal Corps Specification No. 71-2202-A. Its use eliminates the difficulties encountered in hot and humid climates in radio and communication equipment due to moisture absorption or fungus growth. Applied by brushing, dipping or spraying on coils, hookup wires, solder connections, trimmer condensers, tube sockets, etc. This lacquer will "air-dry" in a few minutes and dries hard in less than one hour.

Cat. No.	Net Price
196—2 oz. bottles	$0.21
197—1 pt. cans	.90
198—1 gal. cans	5.40

SCRATCH REMOVERS
POLISHES, PAINTS, LACQUERS
RECORD CLEANERS

•WALSCO

WALSCO SCRATCH REMOVING POLISH

"Makes Scratches Disappear"

WALSCO
SCRATCH REMOVING POLISH

A blend of polishing and staining ingredients. Removes scratches from cabinets, radios, furniture, etc., and polishes at the same time. Very easy to apply. Will not change shade of finish. Comes in two shades: "Dark" for walnut, mahogany, etc., "Light" for light maple, light oak, etc. Packaged in attractive counter display of 12 bottles for Radio Dealers and Servicemen. A sure-fire repeater for housewives.

Cat. No. Dark	Cat. No. Light		Net Price
414	434	4 oz. bottle	$0.21
416	438	8 oz. bottle	.30
420	430	1 gal. can	2.40

SCRATCH REMOVER

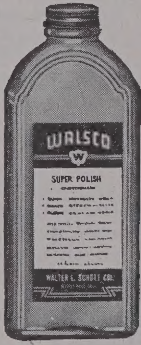
WALSCO
NEW
SCRATCH REMOVER
REMOVES SCRATCHES & MARS ON FURNITURE, RADIOS, etc.
PRICE 50¢

Made of unbreakable plastic in the shape of a fountain pen. Minor scratches instantly disappear from radios, furniture, etc., when merely "brushed over" with the felt wick on one end. If the finish is marred, or the scratch is deep, it can be stained and filled with the special filler on the other end. Indispensable to Dealers, Service, and Delivery Men for their own use, and an extra-profit sales item for the retail trade. Packed in attractive 3-color display card, holding six Scratch Removers, for retail counters.

Cat. No.	Net Price
700	$0.30
700-D—Display card of 6	1.80

SUPER POLISH

"All the Name Implies"



Does two things: First, it removes any old polish, grease or dirt that may be on the cabinet or furniture. Second, it forms a hard, dry and durable film that will protect the object for a long time, giving it a "brand new" appearance. Requires very little rubbing. Indispensable for keeping stock sets in first-class condition. An extremely profitable retail sales item for the smart Dealer and Serviceman. Housewives who once try it will never be without it. Ask your jobber for special deal.

Cat. No.	Net Price
412—4 oz. bottle	$0.21
418—8 oz. bottle	.30
419—1 gal. can	2.40

CRYSTALLIZING LACQUER

WALSCO
CRYSTALLIZING LACQUER

Easily applied to metal, wood, cardboard, etc.—does not require experience. No spraying equipment or baking oven necessary. Brushed on, will dry in about thirty minutes, leaving an absolutely professional finish. Identical to finish found on commercial chassis, panels, speakers and transformers. Walsco Lacquer Sealer, Cat. 142*, should be used as undercoat if this lacquer is to be applied on porous materials or over other finishes. **Available colors: Black, Green, Grey, Brown, Clear. Specify color when ordering.**

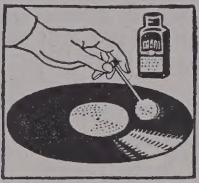
Cat. No.	Net Price
122—2 oz. jar	$0.24
129—16 oz. can	1.35
*142—Sealer, 2 oz. jar	.21

WALSCO *Recordene*

Improves Tone • Renews and Prolongs the Life of Records and Recordings • Reduces Surface Noise and Wear

WALSCO Recordene
WALSCO
Recordene

A wonder, scientific product for improving and preserving records and recordings. Removes dirt, dust or grease from grooves, and leaves a clean, clear plastic film that reduces surface noise and greatly increases record life. A special wool felt dauber is attached to each bottle cap for easy application. Attractive display of a dozen bottles increases turn-over and profits from this fast-moving product. Perfectly safe for any recording except those made of Ethyl Cellulose.



Cat. No.	Net Price
92—2 oz. bottle	$0.27
90—1 gal. can	4.20

RECORD-EASE

Recording—With the Greatest of Ease

Record-Ease should be applied to all recording and transcription blanks BEFORE the cutting. It makes the shavings "fluffy" as they pile up in the center of the record and thereby prevents interference with the cutting point. By decreasing cutting-point friction, Record-Ease greatly prolongs the life of cutting needles. Indispensable for commercial recordings, schools, police and court recordings, broadcasting stations and home recordings.

Cat. No. 95—2 oz. bottle .... Net Price $0.36

LIGHT BULB COLORING

WALSCO
LIGHT BULB COLORING

A transparent, heat and moisture-resisting dipping lacquer especially made for coloring bulbs such as used in radio dials, signal systems, auto dash lights, and fancy illumination. Big jars permit dipping of even larger bulbs.

Cat. No.	Net Price
116 Red—2 oz. jar	$0.15
117 Blue—2 oz. jar	.15
118 Green—2 oz. jar	.15
119 Assorted—Kit of 3	.42
120 Any Color—1 pt. can	1.11

CHROME-LUSTRE PAINT

WALSCO
CHROME LUSTRE PAINT

An aluminum paint which leaves a satin chrome finish. Can be brushed on or sprayed. Will not leave brush marks. Dries in about one hour. May be used indoors or outdoors—will adhere to practically everything. Unsurpassed for finishing P.A. equipment, outdoor speakers, chassis, etc.

Cat. No.	Net Price
132—2 oz. jar	$0.18
139—16 oz. can	1.05

Black — TELEPHONE — Grey

WALSCO
TELEPHONE BLACK

Made for commercial and amateur use on cabinets, chassis, panels, meters, racks, etc. This "satin finish" lacquer dries very fast and produces the "original finish" of most standard telephone and communication equipment. It air dries. May be brushed or sprayed.

Cat. No. Black	Cat. No. Grey		Net Price
172	182	2 oz. jar	$0.21
179	189	1 pt. can	1.35

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WALSCO • REFINISHING and REPAIR KITS

"SUPER-CHIEF" REFINISHING KIT

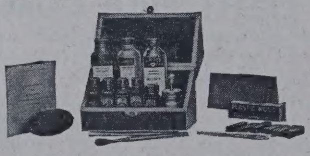
A "Must" Item

This is the most complete kit of its kind on the market. Designed by Walsco for radio dealers. It contains everything which is needed to make an old radio look like new—all handy in one box-type carrying case. Contents of kit can be used by either skilled or unskilled refinishers, to completely refinish old radios and trade-ins, or to quickly patch up scratches, mars, etc. This kit will pay for itself on the first or second job. Every first-class radio dealer should have one. Kit contains the following:

Spirit Stain Dark Walnut
Spirit Stain Black
Spirit Stain Mahogany
Spirit Stain Maple
Super Polish
Spirit Stain Light Walnut
Blending Stain Light Brown
Blending Stain Medium Brown
Lacquer Enamel Light Ivory
Lacquer Enamel Dark Brown
Lacquer Enamel Dark Ivory
Shellac Rubbing Fluid
Stick Shellac (12 shades)
Scratch Removing Polish (Dark)
Scratch Removing Polish (Light)
Scratch Remover
Patching Lacquer
Alcohol Lamp
Alcohol
Screw Driver
Spatula
Felt
Polishing Cloth
Polishing Pad
Garnet Paper (8 sheets)
Instruction Book
Brushes (3 different sizes)

Cat. No. K-26..Net Price $8.97

FURNITURE REFINISHING KIT



Ideal for touch-up work on radios, furniture, pianos, etc. Scratches, mars, dents, broken edges can be repaired quickly and without previous experience in cabinet refinishing. An indispensable money-making item for any Serviceman, Radio, Furniture-and-Piano Dealer, which will pay for itself on the first job. It contains: Super Polish, Patching Lacquer, Alcohol, Spirit Stains in Walnut, Mahogany, Maple and Black; Shellac Rubbing Fluid, Plastic Wood, six colors Stick Shellac, Alcohol Lamp, Spatula, three brushes and eight sheets Garnet Finishing Paper. Complete Instruction Book is enclosed. Kit furnished in California Redwood case with a heavy hinged top. Built to last for many years. **Cat. No. K-15....Net Price $3.75**

RADIO CABINET PATCHING OUTFIT

"The Most Popular Kit on the Market"

PLASTIC WOOD

A complete kit especially designed for radio men who have little experience in cabinet work. Over 95% of all cabinet-finish damages can be repaired with this kit. Contains sufficient material for approximately 120 repair jobs. The kit contains two shades of Spirit Walnut Stain, Dark Brown Lacquer, Plastic Wood, two shades of Ivory Spirit Enamel, Patching Lacquer and Super Polish. Also included in the kit are Alcohol (4 oz.), three Brushes, eight sheets of Garnet Finishing Paper, French Polishing Pad, and Steel Wool, together with complete Instruction Booklet describing how to repair various cabinet damages.

Cat. No.	Net Price
K-10—In sturdy box with hinged lid	$2.85
K-10-W—In California redwood case	3.21

RADIO CABINET REPAIR KIT

A very handy, compact and inexpensive kit that fills the requirements of many shops and stores. Especially useful for quick patching of damaged cabinets. Small brushes are built into the caps of all stain and enamel bottles. While this kit comprises items of the same high quality as those in the larger Walsco kits, it is designed primarily for the Dealer or Serviceman who has only occasional cabinet repairs; or it can be carried on the delivery truck for use of the outside man. The kit contains one bottle each of the following: Ivory Spirit Enamel—light, ½ oz.; Ivory Spirit Enamel—dark, ½ oz.; Lacquer Enamel—Dark Brown, ½ oz.; Spirit Stain—Walnut, ½ oz.; Super Polish, 4 oz.; French Varnish, 2 oz.; three sheets Garnet Finishing Paper; Steel Wool; and Polishing Cloth. An Instruction Booklet is enclosed, which explains simply how various cabinet or furniture damages can be repaired.

Cat. No. K-9...Net Price $1.17

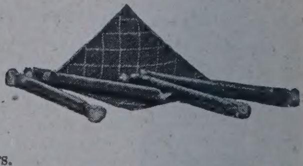
A WORD ABOUT WALSCO REFINISHING AND REPAIR KITS

These are the only kits on the market with all lacquers, stains and enamels specially prepared, ready mixed and soluble in alcohol. They have four outstanding advantages: 1. Drying time is reduced to approximately one-half. **2.** The original finish of the cabinet cannot be lifted, as in the case of improperly applied ordinary lacquers. **3.** An unsatisfactory patch can be washed off and the work started again. **4.** No special thinners are required. Thinning, washing out brushes, etc., can be done with alcohol, readily obtainable anywhere.

STICK SHELLAC KIT

An inexpensive kit for servicemen who have some experience in cabinet refinishing. Combined with Radio Cabinet Patching Outfit (K-10) it makes a most economical and completely professional kit for repairing radio cabinets. The shellac sticks match in color almost any cabinet on the market. The Walsco shellac rubbing fluid makes it possible to smooth the patch without any effort or skill. Kit includes: six colors Stick Shellac, Alcohol Lamp, Burn-in Spatula, bottle of Shellac Rubbing Fluid, Felt, Steel Wool, Alcohol and Instructions. **Cat. No. K-11....................Net Price $1.47**

GRILLE CLOTH

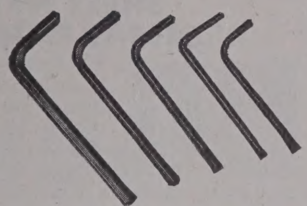


A high quality cloth, with perfect acoustic properties and beautiful patterns that harmonize with most sets. For use on trade-ins, public address and small and large radio speakers. Use non-penetrating Walsco Fabric Cement (Cat. No. 21) for easy and quick installation. Available in three popular sizes..

Cat. No.	Net Price
360—12″ x 12″	$0.30
361—18″ x 24″	.57
362—50″ wide, per yard	2.10

DIAL CABLES & CORDS RADIO REPAIR AIDS • WALSCO

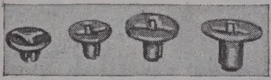
HEXAGON KEY WRENCHES



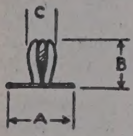
Ideal for radio repair work and for use in all mechanical repair shops. Made of special analysis alloy steel and tempered to eliminate brittleness. Ends are ground to secure easy insertion in screws. Side slipping or rocking impossible.

Cat. No.	Net Price
358 —Assortment of 5 wrenches	$0.24
358-D—20 bags on one display card	4.80
358-1—For No. 4 screw, .050″ Hex., per 100	3.27
358-2—For No. 6 Screw, 1/16″ Hex., per 100	3.27
358-3—For No. 8 screw, 5/64″ Hex., per 100	3.45
358-4—For No. 10 screw, 3/32″ Hex., per 100	3.45
358-5—For ¼″ screw, ⅛″ Hex., per 100	3.54

SNAP-IN TRIMOUNTS



Trimounts are faster than screws. Use them on all modern radio sets, on back covers, dial scales, chassis, built-in antennae, etc., to speed assembly and repairs.



Cat. No.	Net Price
346 —30 assorted Trimounts	$0.24
346-D—20 bags on one display card	4.80

	Dimensions				
	A	B	C		per 1000
346-1	$\frac{9}{32}$	$\frac{11}{64}$	$\frac{9}{64}$	For ⅛″ Hole	$4.44
346-2	$\frac{9}{32}$	$\frac{13}{64}$	$\frac{9}{64}$		4.44
346-3	$\frac{11}{32}$	$\frac{17}{64}$	$\frac{5}{32}$	For $\frac{9}{64}$″ to $\frac{5}{32}$″ Holes	5.85
346-4	$\frac{23}{64}$	$\frac{9}{32}$	$\frac{3}{16}$		5.85

SNAP-HOLE PLUGS

A round, flat head, metal button with spring flanges that snap right into the hole. Will fit materials up to $\frac{1}{16}$″ thick. Holds securely—yet can be easily removed. Used to seal adjustments, cover unused holes, etc.

Cat. No.	Net Price
350 —10 assorted plugs	$0.24
350-D—12 bags on one display card	2.88
350-1—For ¼″ hole, per 100	1.20
350-2—For ⅜″ hole, per 100	1.38
350-3—For ½″ hole, per 100	1.65
350-4—For ⅝″ hole, per 100	1.98
350-5—For ¾″ hole, per 100	2.25
350-6—For 1″ hole, per 100	2.67

VENTILATING HOLE PLUGS

For amplifiers, transmitters, portable radios, amateur equipment, etc., wherever ventilation of equipment is required. Fine wire screen permits free circulation of air. Standard size fits one inch hole.

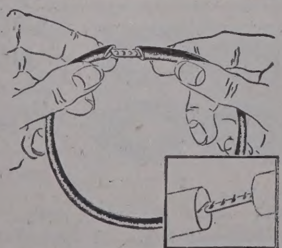
Cat. No.	Net Price
332 —4 standard plugs	$0.24
332-D—20 bags on one display card	4.80
332-1—100 plugs, bulk pack	4.08

"UNIBELT"

Adjustable Dial Belt

(Available Post-War)

Designed to speed up dial repairs. Comes open and therefore can be installed without taking dial apart. The belt can be cut to required length with a diagonal cutter or a pair of scissors. The special latex covering prevents any slippage and the tempered, extremely flexible spring steel core prevents stretching.



DIAL CABLES AND CORDS

MEDIUM CORD
WALSCO
RADIO DIAL DRIVE CABLES

WALSCO dial cables and cords are made of the finest raw materials obtainable and are manufactured especially for radio and electronic devices. Production is constantly controlled to supply a uniform product to meet the most rigid requirements of the Government, radio industry, laboratories, and radio service shops. Through constant research and laboratory work, WALSCO is able to supply dial cables and cords with an absolute minimum stretch factor; special treatment after fabrication increases their resistance to abrasion. WALSCO Dial Cables and Cords are the finest obtainable on the market.

The following cords cover over 80% of the replacement demand. With one spool of each kind on hand, the serviceman has the proper size for practically any set manufactured since 1934. Constructed with "Fiber-glass" core and "prestretched," these are the most efficient cords available.

Cat. No.	Diam.	Breaking Strength	NET PRICES Feet per Spool 25	100	500	1000
"SPECIAL THIN"						
35	.025″	30 lbs.	$0.45			
35-1C	.025″	30 lbs.		$1.56		
35-5C	.025″	30 lbs.			$6.00	
35-1M	.025″	30 lbs.				$10.80
STANDARD						
39	.031″	32 lbs.	$0.60			
39-1C	.031″	32 lbs.		$1.92		
39-5C	.031″	32 lbs.			$7.20	
39-1M	.031″	32 lbs.				$13.80
MEDIUM						
34	.042″	35 lbs.	$0.69			
34-1C	.042″	35 lbs.		$2.40		
34-5C	.042″	35 lbs.			$9.00	
34-1M	.042″	35 lbs.				$15.00

HEAVY CORD—Diameter .062″—Same as used on many Philco and Majestic sets. Very durable, and treated to prevent slipping..

No. 33	25 ft.	Net Price $0.78
No. 33-1C	100 ft.	Net Price 2.52
No. 33-1M	1000 ft.	Net Price 19.20

BRONZE CABLE—16-Strand Braided—Diameter .039″—Breaking Strength 50 lbs.—A braided cable with good flexibility and abrasion resistance. "Fiber-glass" is used as core material and the braid is constructed of special hard Cadmium bronze. Does not unravel.

No. 31	25 ft.	Net Price $0.51
No. 31-1C	100 ft.	Net Price 1.89
No. 31-5C	500 ft.	Net Price 8.10
No. 31-1M	1000 ft.	Net Price 15.00

PHOSPHOR BRONZE CABLE—42-Strand—Diameter .040″—Breaking Strength 60 lbs.—A very flexible metal cable constructed of 42 strands of hard Phosphor bronze over a "Fiber-glass" core. Extremely durable. Used for replacement of dial cables and many special applications where a strong, stranded cable is required.

No. 30	25 ft.	Net Price $0.72
No. 30-1C	100 ft.	Net Price 2.55
No. 30-5C	500 ft.	Net Price 11.10
No. 30-1M	1000 ft.	Net Price 20.85

SPECIAL THIN BRONZE CABLE—Diameter .022″—An extra-thin cable for dial drives, flexible connections, pigtails, and many other applications—wherever a thin, but strong cable is required.

No. 32	25 ft.	Net Price $0.51
No. 32-1C	100 ft.	Net Price 1.89
No. 32-5C	500 ft.	Net Price 8.10
No. 32-1M	1000 ft.	Net Price 15.00

DIAL CABLE ASSORTMENTS

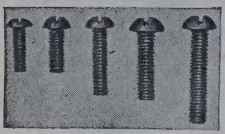
MULTI-SPOOL — Especially Designed for the Outside Service Man—One of the most practical items on the market. **Mr. Serviceman:** Buy economically and get a spool which contains the replacement cord you need when going out on service calls. Takes very little space in your toolbox and comes in very handy. It is a divided spool, holding 15 feet each of Phosphor Bronze Cable No. 30—Heavy Cord No. 33—Medium No. 34—and Special Thin Cord No. 35. **Cat. No. 38** .... **Net Price $1.59**

THRIFTY-SPOOL, STYLE "A"—This very handy spool consists of a small practical assortment of three popular Walsco dial cables: 15 feet each of No. 31 Bronze Cable, No. 34 Medium Cord and No. 35 Special Thin Cord. **Cat. No. 37** .... **Net Price $0.99**

THRIFTY-SPOOL, STYLE "B"—Substantial saving if you buy this very handy assortment of dial cables needed daily. One spool holds 15 feet each of No. 39 Standard Cord, No. 34 Medium Cord and No. 35 Special Thin Cord. No tool kit should be without it—every service shop should have a quantity on hand. **Cat. No. 36** .... **Net Price $0.99**

SCREWS—WASHERS NUTS—BOLTS •WALSCO

STEEL MACHINE SCREWS



Round head, cadmium-plated, steel machine screws, available in all sizes used for radio and electronic work . . . in assortments or bulk . . . conveniently packaged for manufacturers, servicemen, and amateurs.

Cat. No.		Net Price per 1000	Cat. No.		Net Price per 1000
356-2-1	2-56x$\frac{3}{16}$	$1.32	356-6-4*	6-32x¾	$2.10
356-2-2	2-56x⅜	1.41	356-8-1	8-32x¼	1.80
356-2-3	2-56x½	1.50	356-8-2*	8-32x⅜	2.10
356-4-1	4-40x$\frac{3}{16}$	1.44	356-8-3*	8-32x½	2.40
356-4-2	4-40x⅜	1.65	356-8-4*	8-32x¾	2.58
356-4-3	4-40x½	1.80	356-10-1	10-32x½	3.00
356-6-1*	6-32x¼	1.56	356-10-2	10-32x¾	3.48
356-6-2*	6-32x⅜	1.50	356-10-3	10-32x1	3.60
356-6-3*	6-32x½	1.80			

*Available also with Binding Head.

Standard Machine Screw Assortment

All the standard sizes used in electronic and similar work are combined in this handy, inexpensive assortment. It contains Nos. 6, 8, 10 screws—¼ to 1" long.

Cat. No.		Net Price
356	***—50 assorted screws***	**$0.24**
356-D	***—20 bags on one display card***	**4.80**

Small Machine Screw & Nut Ass'tm't

A special assortment of extra small screws (Nos. 2 and 4), and nuts so often needed in electronic and experimental work for fastening small parts, to replace rivets, etc.

Cat. No.		Net Price
336	***—40 assorted screws and 40 assorted nuts***	**$0.24**
336-D	***—20 bags on one display card***	**4.80**

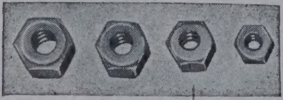
SET SCREW ASSORTMENT

A new assortment of precision, hardened steel set screws in all popular sizes for radio knobs, record changers, home and automobile radios, or wherever set screws are needed.

Cat. No.		Net Price
348	***—20 assorted screws***	**$0.24**
348-D	***—20 bags on one display card***	**4.80**

Cat. No.		per 1000	Cat. No.		per 1000
348-6-1	6-32x⅛	$10.80	348-8-2	8-32x$\frac{3}{16}$	$11.40
348-6-2	6-32x$\frac{3}{16}$	10.80	348-8-3	8-32x¼	11.40
348-6-3	6-32x¼	11.40	348-10-1	10-32x$\frac{3}{16}$	11.40
348-8-1	8-32x⅛	10.80	348-10-2	10-32x¼	11.40

MACHINE SCREW NUTS

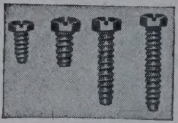


Walsco nuts are made to American Standards and fit Walsco machine screws perfectly. Available by size or in packaged assortments.

Cat. No.		Net Price
352	***—60 assorted nuts***	**$0.24**
352-D	***—20 bags on one display card***	**4.80**

Cat. No.	Size	per 1000	Cat. No.	Size	per 1000
352-1	2-56	$2.16	352-4	8-32	$2.70
352-2	4-40	1.95	352-5	10-32	3.00
352-3	6-32	2.28			

SHEET METAL AND SELF-TAPPING SCREWS



These screws cut their own threads in either metal or plastic, and "drive home" as accurately as a machine screw in a machine thread. Just drill a hole and drive in the screw—no nut or tapping required. Ideal for mounting parts to chassis, replacing rivets and set screws, and numerous other purposes. All screws are hex head and slotted—type "Z" and Cadmium plated.

Cat. No.		Net Price
347	***—30 assorted screws***	**$0.24**
347-D	***—20 bags on one display card***	**4.80**

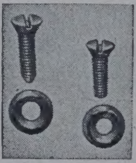
Cat. No.		per 1000	Cat. No.		per 1000
347-6-1	6x¼	$3.00	347-8-3	8x¾	$4.50
347-6-2	6x⅜	3.30	347-8-4	8x1	5.10
347-6-3	6x½	3.45	347-10-1	10x⅜	4.50
347-6-4	6x¾	3.54	347-10-2	10x½	4.80
347-8-1	8x⅜	3.45	347-10-3	10x¾	5.40
347-8-2	8x½	3.75			

SMALL WOOD SCREW ASSORTMENT

This assortment contains all the extra small sizes of wood screws needed by radio men, model builders, etc., for fastening name plates, escutcheons and numerous other devices.

Cat. No.		Net Price
355	***—60 assorted screws***	**$0.24**
355-D	***—20 bags on one display card***	**4.80**

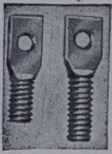
RACK SCREWS AND CUP WASHERS



For mounting panels in racks and cabinets, fastening record-players and recording chassis, etc. Enhances appearance of any assembly. The oval head screws are nickel plated—so are the cup washers.

Cat. No.		Net Price
354	***—15 screws and washers***	**$0.24**
354-D	***—20 bags on one display card***	**4.80**
354-1	—Screw 8-32x⅝", per 1000	6.00
354-2	—Screw 10-32x¾", per 1000	6.00
354-5	—Cup washer No. 8, per 1000	3.45
354-6	—Cup washer No. 10, per 1000	3.45

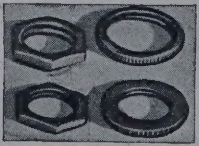
SPADE BOLTS



Indispensable for attaching condensers, coils, cans, and similar items. For Experimenters, Servicemen and Manufacturers of electronic equipment. Stud size 6-32. Hole size for No. 6 screw.

Cat. No.		Net Price
327	***—30 assorted bolts***	**$0.24**
327-D	***—20 bags on one display card***	**4.80**
327-1	—Overall length approx. ⅝", per 1000	6.00
327-2	—Overall length approx. ¾", per 1000	6.90

SPECIAL MOUNTING NUT ASSORTMENT



An assortment of the various kinds of nuts used on volume controls, switches, jacks, potentiometers, etc. A "must" for every radioman and electrician.

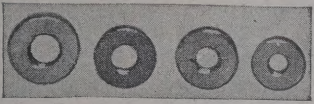
Cat. No.		Net Price
353	***—15 assorted nuts***	**$0.24**
353-D	***—20 bags on one display card***	**4.80**

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WASHERS — GROMMETS SPRINGS • WALSCO

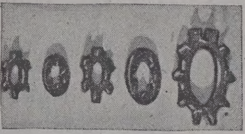
WALSCO METAL WASHERS

Precision steel washers, Cadmium plated, in standard small sizes for innumerable uses.



Cat. No.		Net Price
351	***—100 assorted washers***	**$0.24**
351-D	***—20 bags on one display card***	**4.80**
351-1	—Standard size No. 4, per 1000	1.05
351-2	—Standard size No. 6, per 1000	1.05
351-3	—Standard size No. 8, per 1000	1.20
351-4	—Standard size No. 10, per 1000	1.20
351-5	—Standard size ¼″, per 1000	1.35

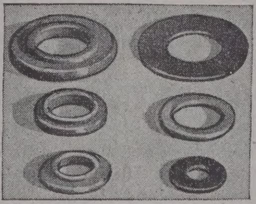
LOCK WASHERS



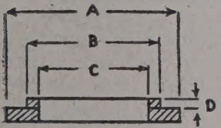
These lock washers are made of special steel and are rust-proofed. The sizes listed below are the most popular ones in the radio and electrical appliance field, and are included in the assortment.

Cat. No.		Net Price
359	***—65 assorted lock washers***	**$0.24**
359-D	***—20 bags on one display card***	**4.80**
359-1	—No. 4 (Int. or Ext.), per 1000	2.10
359-2	—No. 6 (Int. or Ext.), per 1000	2.25
359-3	—No. 8 (Int. or Ext.), per 1000	2.25
359-4	—No. 10 (Int. or Ext.), per 1000	2.25
359-5	—¼ (Int. or Ext.), per 1000	2.40
359-6	—⅜ (Int. or Ext.), per 1000	2.70

INSULATING WASHERS



Made of high grade insulating material. Ideal for countless uses on metal panels where insulating washers are required. The assortment contains both plain and shoulder type washers to fit all standard size screws and bolts, jacks, controls, etc.



Cat. No.		Net Price
343	***—60 assorted extruded and flat washers***	**$0.24**
343-D	***—20 bags on one display card***	**4.80**

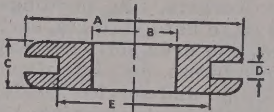
EXTRUDED WASHERS

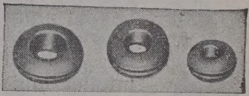
Cat. No.	A	B	C	D	Used with	Net per 1000
343-E-1	¼	3/16	.136	1/16	No. 6 Screw	$2.10
343-E-2	⅜	.246	11/64	1/16	No. 8 Screw	2.10
343-E-3	⅜	.308	.196	1/16	No. 10 Screw	2.10
343-E-4	½	5/16	1/4	1/16	¼″ Shaft	2.70
343-E-5	⅝	1/2	.385	1/16	⅜″ Shaft	3.30

FLAT WASHERS—1/32" Thick

Cat. No.	O.D.	I.D.	Used with	Net per 1000
343-F-1	¼	.136″	No. 6 Screw	$1.20
343-F-2	⅜	11/64″	No. 8 Screw	1.20
343-F-3	⅜	.196″	No. 10 Screw	1.50
343-F-4	½	1/4″	¼″ Shaft	1.50
343-F-5	⅝	.385″	⅜″ Shaft	1.65

WALSCO RUBBER GROMMETS



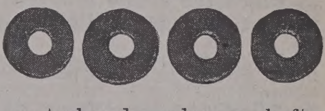


For protecting cables from abrasion when passing through chassis or similar holes. Also used for vibrationless mounting of parts. Made of new oil-and-solvent- resistant synthetic rubber. Five popular sizes.

Cat. No.		Net Price
334	***—15 assorted grommets***	**$0.24**
334-D	***—20 bags on one display card***	**4.80**

	A	B	C	D	E	per 100
334-1	$\frac{11}{32}$	⅛	$\frac{3}{16}$	$\frac{1}{16}$	¼	$0.87
334-2	$\frac{7}{16}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{16}$	$\frac{5}{16}$	.99
334-3	$\frac{9}{16}$	¼	¼	$\frac{1}{16}$	⅜	1.11
334-4	⅝	⅜	¼	$\frac{1}{16}$	½	1.20
334-5	$\frac{13}{16}$	½	$\frac{9}{32}$	$\frac{1}{16}$	⅝	1.50

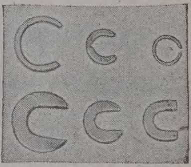
KNOB FELT WASHERS



Keeps cabinets from being scratched and makes knobs work smoothly. Made of tough brown felt with ¼″ hole to fit standard control and condenser shafts.

Cat. No.		Net Price
349	***—75 felt washers in cellophane bag***	**$0.24**
349-D	***—12 bags on one display card***	**2.88**
349-1	—2500 felt washers (bulk pack)	3.00

RETAINING RINGS & "C" WASHERS



A complete assortment of all the standard types and sizes of Retaining Rings and "C" Washers required for radio, electrical and electronic repair work. A necessity in the servicing of volume controls, record changers, etc. Six standard types—all Cadmium or Duolite finished.

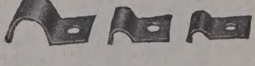
Cat. No.		Net Price
342	***—50 assorted rings and washers***	**$0.24**
342-D	***—20 bags on one display card***	**4.80**

RUBBER WASHER & BUMPER ASST.

An assortment of the various kinds of rubber washers, bumpers, and spacers used in the electronic and radio industry for shockless, vibrationless mounting, for eliminating rattles, etc.

Cat. No.		Net Price
344	***—20 assorted washers and bumpers***	**$0.24**
344-D	***—20 bags on one display card***	**4.80**

CABLE CLAMPS

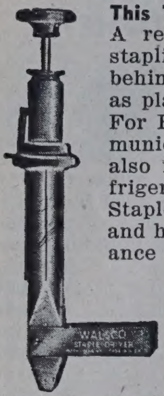


Heavy gauge steel, Cadmium plated, ⅜″ wide. Perfectly punched and formed with No. 6 and No. 8 mounting holes. Available in 3 sizes for cables from ⅛″ to $\frac{5}{16}$″ in diameter.

Cat. No.		Net Price
333	—25 assorted clamps	$0.24
333-D	—20 bags on one display card	4.80
		per 1000
333-1	—For cables from ⅛″ to $\frac{3}{16}$″ diam.	6.00
333-2	—For cables from $\frac{3}{16}$″ to ¼″ diam.	6.30
333-3	—For cables from ¼″ to $\frac{5}{16}$″ diam.	6.60

WALSCO • STAPLE DRIVER — TUBING SPRINGS — BUMPERS TERMINAL LUGS

WALSCO STAPLE DRIVER



This Tool Pays for Itself on the First Job! A real time and trouble-saving tool for stapling wire into corners, into moldings, behind pipes, and on to hard surfaces, such as plaster, cement, and even soft concrete. For Radio, Public Address, and Inter-Communication installation and service. Useful also for general stapling, sign-posting, refrigeration gasket work, etc. The WALSCO Staple Driver has met the test in the field and has proved itself a real aid to maintenance men. This handy device automatically positions the staple—then one or two strokes with the palm of the hand and the staple is driven home neatly, quickly, and accurately. A small trigger regulates the feeding mechanism to enable the operator to strike the handle on hard surfaces as often as necessary before a second staple leaves the magazine. Staples come in strips, can be loaded in a few seconds and are large enough for cables and wires up to ¼″ diameter. An adjustable regulator controls the depth to which the staple is driven into surface, thus preventing damage to the insulation of the wire.

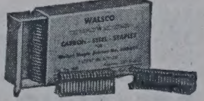
Cat. No. 500..**Net price $3.70**

No. 505—Carrying Case—Handy carrying case for the Walsco Staple Driver. To carry tool in the pocket or on the belt. Genuine cowhide leather. ....**Net Price $1.25**

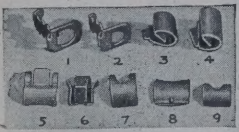
No. 507—Rubber Cap—Fits over the head of the stapler. Makes it easier to drive staples into hard surfaces..................**Net Price $0.19**

Carbon Steel Staples—Made of tool steel. Come in strips and are especially made for the Walsco Staple Driver. Inside coated with special clear insulating lacquer; patented process.

No. 550— 250 staples.........**Net $0.29**
No. 552—1000 staples.........**Net 1.10**



RADIO KNOB SPRINGS

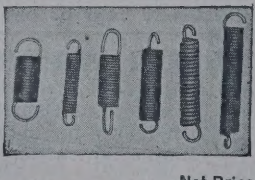


The modern method of fastening knobs to shafts. Available in all regular sizes and shapes. The assortment is most complete and is useful to radio shops.

	Net Price
345 —20 assorted springs	$0.24
345-D—20 bags on one display card	4.80
345-1 to 345-9—Knob springs (as illustrated) per 1000	6.60

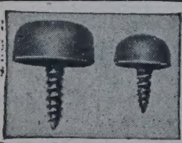
EXPANSION SPRINGS

Very handy for radio and electrical shops, laboratories, etc. The assortments contain various sizes of springs for untold applications: record changers—to name one out of a thousand.



Cat. No.	Net Price
329 —10 assorted large springs	$0.24
329-D—12 bags on one display card	2.88
339 —10 assorted small springs	.24
339-D—20 bags on one display card	4.80

RUBBER FEET



For use on bottom of cabinets, amplifiers, speaker boxes, instruments, etc. Recessed cavity of bumper prevents screw from scratching. Available in 2 sizes. Wood screws are included but machine screws (for use on metal cabinets) may be used.

Cat. No.	Net Price
335 —16 assorted rubber feet	$0.24
335-D—20 bags on one display card	4.80
335-1—⅜″ O.D. x $\frac{7}{32}$″ high, per 100	.90
335-2—½″ O.D. x $\frac{9}{32}$″ high, per 100	1.05

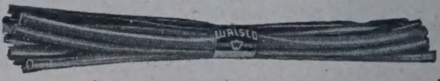
WALSCO FLEXITUBE

WALSCO
FLEXITUBE

• A high grade synthetic tubing for electronic and electrical insulation. • Extremely flexible and resistant to abrasion. • High dielectric strength (average 12,000 volt.) • Resistant to cold or heat (minus 65° F. to plus 185° F.). • This new synthetic tubing is ideally suited for all insulation purposes in radio and communication assemblies. Attractively packaged in individual boxes. Easy to store. Usable to the last inch.

Cat. No.	Size B. & S. Gauge	Approx. I. D.	Length per Package	Net Price
600	18	.042″	20 ft.	$0.48
601	16	.053″	20 ft.	.48
602	14	.066″	20 ft.	.48
603	12	.085″	20 ft.	.48
604	10	.106″	15 ft.	.48
605	8	.133″	15 ft.	.48
606	6	.166″	10 ft...	.48
607	4	.208″	10 ft.	.48
608	2	.263″	10 ft.	.48

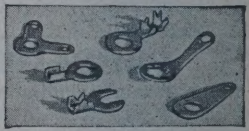
HANDY ASSORTMENT



Ca. No.	Net Price
620 —25 ft. of assorted sizes and colors, from size 18 to 10	$0.54
620-D—36 assortments of No. 620 in one display box	19.44
621 —15 ft. of assorted sizes and colors, from size 10 to 2	.54
621-D—24 assortments of No. 621 in one display box	12.96

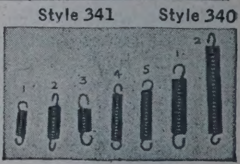
TERMINAL LUGS

Available in the five most popular sizes which meet all the requirements of the radio and electronic field. Surface is perfectly tinned over a brass body. Accurate forming facilitates easy handling.



Cat. No.	Net Price
328 —40 assorted lugs	$0.24
328-D—20 bags on one display card	4.80

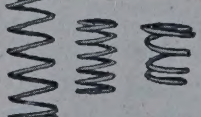
DIAL DRIVE SPRINGS



Made of fine music wire for greater flexibility and available in all standard sizes. Carefully looped at each end and rust-proofed.

Cat. No.	Net Price
340-1—Dial drive springs, per 1000	$19.80
340-2—Dial drive springs, per 1000	19.80
341-1—Small drive springs, per 1000	12.60
341-2—Small drive springs, per 1000	12.60
341-3—Small drive springs, per 1000	12.60
341-4—Small drive springs, per 1000	13.80
341-5—Small drive springs, per 1000	13.80
ASSORTMENTS	
340 —Asst. of 10 springs, 5 sizes	.24
340-D—20 bags on one display card	4.80
341 —Asst. of 10 springs, small sizes only	.24
341-D—20 bags on one display card	4.80

COMPRESSION SPRINGS



A hard-to-get item. The Walsco assortments contain all of the springs often needed for repair work on radio and electronic equipment, motors, appliances, etc. Available in two assortments.

Cat. No.	Net Price
337 —20 assorted small springs	$0.24
337-D—20 bags on one display card	4.80
338 —15 assorted large springs	.24
338-D—12 bags on one display card	2.88

American Beauty

ELECTRIC SOLDERING IRONS

Embodied in these Electric Soldering Irons are those features of construction and design that specialized experience — since 1894 — has demonstrated to be desirable for efficient and lasting service. Hundreds of thousands are in use throughout the world in a wide variety of manufacturing plants; in service, maintenance and repair shops; Army and Navy Services; in telephone, telegraph and radio stations. Because of their proven efficiency and durability, they are preferred by those who measure the value of a tool by the service it renders.

RELATIVE SIZES AND SPECIFICATIONS

No. 3138—Primarily adapted for light work—radio, telephone, telegraph, ignition, factory and production work of a light nature; for telephone installation and switchboard work, etc.

No. 3158—For the same purposes as No. 3138 and for work of a heavier nature. Used by electric starter and ignition manufacturers for repair work and other purposes where more heat is needed.

No. 3178—For use on still heavier work; for light commutators and service and production work. A very useful iron for general purposes.

No. 3198—For heavy work of all kinds. Supplies a very large volume of heat at high temperature. Used by manufacturers in many different lines; for shop, service, production work, etc.

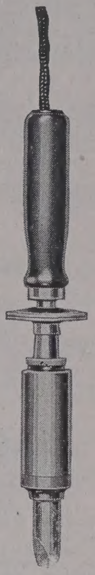
Each iron is equipped with a baffle plate, at the shank, to prevent free conduction of heat to handle.

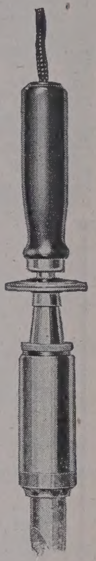
Made in all standard voltages and for 32 volts. No. 3138 also made for 12 and 24 volts. All can be equipped with three-conductor cord, one wire grounded, at slight additional charge.

Separate heat-insulating stand supplied with each iron.

3138

3158


3178


3198

No. S-76—A special, light, compact iron designed for light work. It heats up quickly and consumes only 50 watts. Its construction is somewhat different from that of the standard irons, having a specially treated copper core, with light metal head, on which the tip screws with taper fit. An efficient and serviceable tool that will give satisfaction when used on the light work for which it is intended. Made in all standard voltages and for 6, 12 and 32 volts.

SPECIFICATIONS

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approx. Ship. Wt.	List Price	Net Price
3138	⅜"	100	16 oz.	12⅞"	⅞"	2 lbs.	$7.20	$4.79
3158	⅝"	200	28 oz.	13⅝"	1¼"	3 lbs.	8.60	5.72
3178	⅞"	300	42 oz.	14⅜"	1 9/16"	4 lbs.	11.50	7.67
3198	1⅛"	550	60 oz.	15"	1¾"	5¾ lbs.	15.00	9.98
S-76	7/16"	50	6 oz.	11⅝"	⅝"	14 oz.	4.50	2.98

American Beauty COPPER TIPS

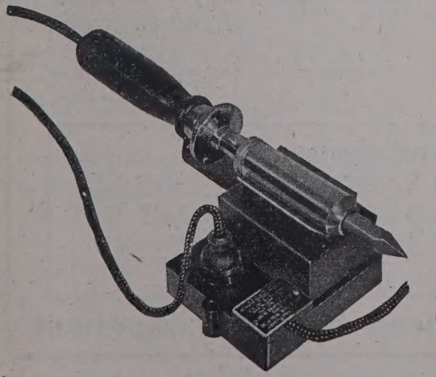
These copper tips are made of commercially pure, drawn bar, copper rod. Each tip is designed to fit into, and to the full length of, core of heating unit of the particular iron for which it is intended. Maximum area of contact between tip and heating unit is thus assured. Tips are of uniform diameter throughout their entire length and are not made with enlarged heads because this does not increase the capacity of a soldering iron. Tip is held in place in core of heating unit by a recessed set-screw. Removal for cleaning or replacement is therefore easy. Standard shaped tips with which the various models are equipped as shown in illustration but pyramidal, instead of chisel type, and vice versa, can be supplied when so specified without additional charge. For No. 3138 a special, long, semi-chisel shaped tip can also be supplied for telephone and switchboard work.

3738 for 3138 iron

3758 for 3158 iron

3778 for 3178 iron

3798 for 3198 iron



American Beauty TEMPERATURE REGULATING STANDS

For use on (AC) Alternating Current Only

This is a thermostatically controled device for the regulation of the temperature of an electric soldering iron while at rest. When placed on this stand, soldering iron is maintained at working temperature, ready for instant use or, if desired, at a lower temperature. Through an adjustment on bottom of the stand, thermostat may be set for the maintenance of any desired temperature—from very low, or warm, to full working temperature. Body of stand is of molded plastic. Soldering iron crade proper is of metal. Stand is equipped with cord and attachment plug-cap for connection to current and with a receptacle for connection of the elctric soldering iron. It is designed for use with electric soldering irons up to 660 watts capacity and on circuits up to 240 volts.

Cat. No.	Net Weight	List Price	Net Price
475	27 oz.	$4.95	$3.46

ESICO

INDUSTRIAL
ELECTRIC SOLDERING IRONS

Reg. U. S.

GREEN LABEL
ELECTRIC SOLDERING IRONS

Pat. Off

GENERAL INFORMATION FOR PLUG TIP IRONS
Esico prestige assures the fine quality of these soldering irons. For use on both A.C. and D.C. current. Wound in voltages ranging from 105 to 240 volts. Tips are plug type, held by a set screw. Elements and other parts are easily replaced. Rugged and durable, with a one-piece heavy gauge steel case, mounted element and positive grip handle. Equipped with a 6 ft. cord and attachment plug. Metal stand supplied with every tool.

General Information: Exceptionally fine tools. Packed in green label boxes to differentiate from Esico Industrial Irons. One-piece blued steel cases and richly-dark mahogany handles. Replaceable forged copper tips. Wound in voltages ranging from 32 to 250 volts. Can be used on both A.C. and D.C. current. (Nick Nacks 105-120 volts only.)

No. 54A — 65 WATTS

Tip ⅜″ in Diameter
Iron Complete $5.00, Extra Tip 25¢, Element $2.25
Equal to copper of ½ lb. Length overall 10″. Weight without cord, 8 oz. For light work, such as soldering fine wires, radio factory use, tool kits. Suitable where a light, short tool is required.

No. 96A — 110 WATTS

Tip ⅜″ in Diameter
Iron Complete $5.50, Extra Tip 32¢, Element $2.75
Equal to copper of ¾ lb. Length overall, 12″. Weight without cord, 10 oz. For electrical and radio factories, telephone and switchboard repair, fuses, tool kits, light manufacturing, delicate instruments, radio and electrical laboratories.

No. 126A — 130 WATTS

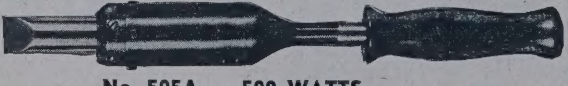
Tip ½″ in Diameter
Iron Complete $7.75, Extra Tip 65¢, Element $3.50
Equal to copper of 1 lb. Length overall, 12½″. Weight without cord, 16 oz. For light tin work, automobile repairs and general factory soldering. Very handy because of its shortness.

No. 206A — 200 WATTS

Tip ½″ in Diameter
Iron Complete $8.75, Extra Tip 70¢, Element $3.75
Equal to copper of 1½ lbs. Length overall, 14″. Weight without cord, 24 oz. For medium tin work, automobile repairs, patterns, factory work, small branders.

No. 355A — 310 WATTS

Tip ⅞″ in Diameter
Iron Complete $10.25, Extra Tip $1.25, Element $5.00
Equal to copper of 3 lbs. Length overall, 14½″. Weight without cord, 41 oz. For heavy sheet metal work, tinsmiths, automobile radiators, refrigerators, branding.



No. 505A — 500 WATTS

Tip 1⅛″ in Diameter
Iron Complete $12.25, Extra Tip $1.75, Element $6.00
Equal to copper of 5 lbs. Length overall, 14½″. Weight without card, 54 oz. For heavy soldering, large tanks or cans, roofs, large area objects, large branders.

The Esico Irons Listed Below Are Ideal for the Radio Service and Repair Man

"NICK NACK" — 55 WATTS

Cat. No. 15
No. 15 Tip 7/16″ Diameter. Weight 6 oz. Length 11¾″
LIST PRICES
Iron Complete $1.25, Extra Tip 25¢, Element 60¢

"MIDGET" — 65 WATTS

Cat. No. 16P—Plug Tip
No. 16P ⅜″ Diameter. Weight 7 oz. Length 11¼″
LIST PRICES
Iron Complete $1.95 Extra Tip 35¢, Element $1.35

"JUNIOR" — 100 WATTS

Cat. No. 17P—Plug Tip
No. 17P Tip ⅜″ Diameter. Weight 9 oz. Length 12¼″
LIST PRICES
Iron Complete $2.95, Extra Tip 35¢, Element $1.45

"TROPHY" — 150 WATTS

Cat. No. 18P—Plug Tip
No. 18P Tip ½″ Diameter. Weight 18 oz. Length 12½″
LIST PRICES
Iron Complete $5.00, Extra Tip 45¢, Element $2.50

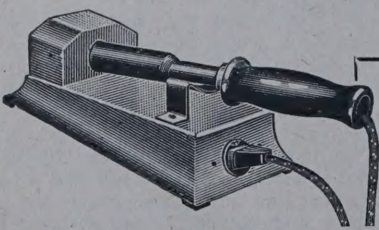
ESICO SOLDER POTS

Model No. 36

Model No. 12—Size 1½″ dia. x 1½″ deep; capacity ¾ lbs.; wattage 200; overall height 4½″; shipping weight 3¾ lbs.
Net List Price $4.50
Replacements: Cord Set, 75¢; Element, $1.50

Model No. 36 (illustrated)—Size 2½″ dia. x 1¾″ deep; capacity 2¼ lbs.; wattage 250; overall height 4¾″; shipping weight 4 lbs.
Net List Price $5.50
Replacements: Cord Set, 75¢; Element, $1.50

Model No. 60—Size 3½″ dia. x 1⅛″ deep; capacity 3¾ lbs.; wattage 325; overall height 4¾″; shipping weight 5¼ lbs.
Net List Price $6.50
Replacements: Cord Set, 75¢; Element, $1.50



ESICO THERMOSTATIC CONTROL STAND

Temperature: Iron can be maintained at any desired temperature while in stand. Tip temperature is controlled. When removed from the control, full current is instantly applied to the iron. **Save:** Cost of electric current. **Prolong:** Element and tip life. Permits the use of high wattage elements in small irons as they cannot overheat.

Positively impossible for Iron to Overheat or to Burn Off Its Tin!

Cat. No. 5—Irons up to 1″ Diameter Tip. **Cat. No. 6**—Irons 1″ to 1⅝″ Diameter Tip.
List Price $6.50

ELECTRIC SOLDERING IRON CO. Inc., Deep River, Connecticut

DRAKE RADIO IRONS

60 WATT IRON WITH 3/8″ TIP

An excellent iron for light work. Highest quality Nichrome wire used in porcelain element. Equipped with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

No. 315......List $1.20 **Net Price $ .72**
Element — List $0.50 Net $ .30 **Tip** — List $0.50 Net $ .30
Net Weight 1 lb.

65 WATT IRON WITH 1/4″ TIP

An excellent iron for light work and tight corners. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

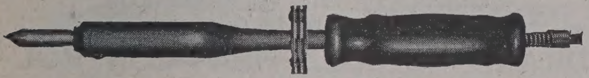
No. 317......List $2.25 **Net Price $1.35**
Element — List $1.30 Net $ .78 **Tip** — List $0.40 Net $0.24
Net Weight 1 lb.

100 WATT IRON WITH 3/8″ TIP

SAME DESIGN AS No. 317

Recommended for the radio amateur. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

No. 320......List $3.00 **Net Price $1.80**
Element — List $1.50 Net $ .90 **Tip** — List $0.50 Net $ .30
Net Weight 1½ lbs.



125 WATT IRON WITH 3/8″ TIP

Recommended for the experimenter who desires an extra hot iron. Highest quality Nichrom wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

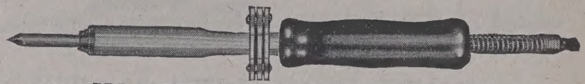
No. 321......List $4.15 **Net Price $2.49**
Element — List $1.50 Net $0.90 **Tip** — List $0.50 Net $ .30
Net Weight 2 lbs.

150 WATT IRON WITH 1/2″ TIP

SAME DESIGN AS No. 321

Recommended for light medium work such as chassis spotting. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and small stand. Gun metal finish.

No. 322......List $5.00 **Net Price $3.00**
Element — List $2.50 Net $1.50 **Tip** — List $0.60 Net $0.36
Net Weight 2 lbs.



60 WATT IRON WITH 1/4″ TIP

An Extra Small Iron for Midget Sets

Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 12 "Magic Cup" stand. Fully nickel plated.

No. 400......List $4.50 **Net Price $2.70**
Element — List $2.00 Net $1.20 **Tip** — List $0.40 Net $ .24
Net Weight 2 lbs.

80 WATT IRON WITH 3/8″ TIP

Recommended for light radio work. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 12 "Magic Cup" Stand. Fully nickel plated.

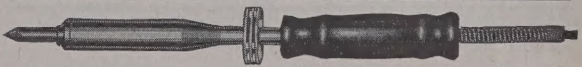
No. 225......List $3.50 **Net Price $2.10**
Element — List $2.00 Net $1.20 **Tip** — List $0.50 Net $ .30
Net Weight 1½ lbs.

100 WATT IRON WITH 3/8″ TIP

SAME DESIGN AS No. 225

Recommended for general radio work. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 12 "Magic Cup" Stand. Fully nickel plated.

No. 325......List $4.15 **Net Price $2.49**
Element — List $2.50 Net $1.50 **Tip** — List $0.50 Net $ .30
Net Weight 1½ lbs.



125 WATT IRON WITH 3/8″ TIP

AN EXTRA HOT IRON FOR SERVICE MEN. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 12 "Magic Cup" Stand. Fully nickel plated.

No. 325 Special......List $5.00 **Net $3.00**
Element — List $2.50 Net $1.50 **Tip** — List $0.50 Net $ .30
Net Weight 2 lbs.

200 WATT IRON WITH 5/8″ TIP

SAME DESIGN AS No. 325 SPECIAL

Recommended for medium heavy work. Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug and No. 10 Stand. Fully nickel plated.

No. 425......List $8.25 **Net Price $4.95**
Element — List $3.50 Net $2.10 **Tip** — List $0.80 Net $ .48
Net Weight 2 lbs.

DRAKE *Industrial* IRONS

80 WATT IRON WITH 3/8″ TIP

Recommended for fine instruments, light telephone and other light soldering.

No. 450 . . . . . List $4.50 **Net Price $3.17**

Element — List $2.50 **Net $1.87** **Tip** — List $0.50 **Net $ .37**

Net Weight 1½ lbs.

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100 WATT IRON WITH 3/8″ TIP

Same design as No. 450

For switchboards, radio and other light soldering.

No. 600 . . . . . List $6.00 **Net Price $4.50**

Element — List $2.75 **Net $2.06** **Tip** — List $0.50 **Net $ .37**

Net Weight 2 lbs.

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100 WATT IRON WITH 3/8″ TIP

ONLY 10″ OVERALL

Designed for same class of work as our No. 600.

No. 600-10 . . . List $6.50 **Net Price $4.87**

Element — List $2.75 **Net $2.06** **Tip** — List $0.50 **Net $ .37**

Net Weight 2 lbs.

Speed up production with the

No. 600 SPECIAL

Same design as our No. 600-10

A 140 WATT IRON WITH 3/8″ TIP

Recommended for high speed work on radio sets.

No. 600 SPECIAL, List $7.00; **Net Price $5.25**

Element — List $3.00 **Net $2.25** **Tip** — List $0.50 **Net $ .37**

Net Weight 2 lbs.

The elements of all Drake Industrial Soldering Irons are wound on high grade amber mica with Driver Harris Nichrome 5 and come complete with 10,000 cycle heater cord, rubber plug and "Magic Cup" stand.

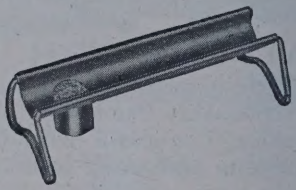
You Carry a Spare Tire—

WHY NOT A SPARE SOLDERING IRON?

DRAKE No. 3 "MIDGET"

A 40 watt iron with ½″ tip complete with container for convenient storage in your tool kit.

No. 3 Midget . . . . **YOUR PRICE $0.75**



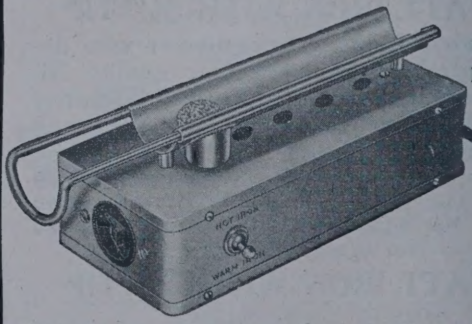
DRAKE "MAGIC CUP" SOLDERING STAND

The most practical soldering stand ever devised. A twist of the wrist and all oxide disappears. Furnished with all Drake Irons shown on this catalog sheet, with the exception of Nos. 3, 315, 317, 320, 321, 322 and 425 irons.

No. 12 . . . . List $0.50 **Net Price $0.38**

DOUBLE THE LIFE OF YOUR IRON
with the

DRAKE VARIABLE HEAT CONTROL



KEEPS YOUR TIP PROPERLY TINNED

•

PAYS FOR ITSELF WITHIN A SHORT TIME

With this control you can keep your iron warm at low cost. A flip of the switch and the iron is ready for use in a few moments. For use with any Soldering Iron not exceeding 150 Watts Input. 115 Volts A. C. or D. C. only.

No. 300, without hood List $4.00 **Net $2.40**

No. 300-H, with hood List 4.50 **Net 2.70**

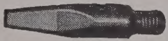
Net weight 3 lbs.

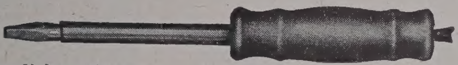
HEXACON

ELECTRIC SOLDERING IRONS

GENERAL INFORMATION—Equipped with 6 ft. (10,000 cycle) approved heater cord (covered with twine braid for extra long wear) and rubber plug. European type plugs 25c extra list. Metal stand furnished with each iron. Heating elements made of best grade nickel-chromium resistance wire, insulated with finest mica obtainable. Elements in the plug tip irons are replaceable by the user and in the screw tip irons replaceable at the factory. Tips in all irons are replaceable; made of hard drawn pure copper. Case is made from solid hexagon steel (except No. 50 and P-30), affording it great mechanical strength, preventing denting. Terminal easily accessible and constructed to relieve cord strain. Smooth, cool, comfortable handle—readily replaceable. Voltage range: 32 to 250. Standard voltages 110/120, 121/130, 220/250. All other voltages $1.00 extra list.

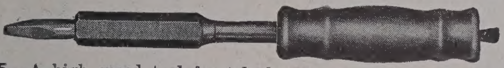
SCREW TIP IRONS



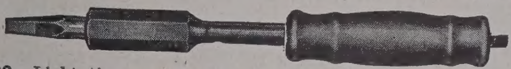


No. 50—For light soldering on radio, telephone and electrical apparatus. 50 Watts. Tip diam., 7/16". Ship. wt., 1 lb. Equal to ½-lb. old style copper........each **$4.50**

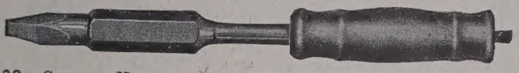
No. 60—Medium light soldering on telephone, radio, apparatus and linemen's kits. 60 Watts. Tip diam., ½". Ship. wt., 1⅛ lb. Equal to 1-lb. old style copper........each **$6.25**



No. 85—A high speed tool for telephone, radio and home use. 90 Watts. Tip diam., ½". Ship, wt., 1¼ lb. Equal to 1½-lb. old style copper........each **$7.00**

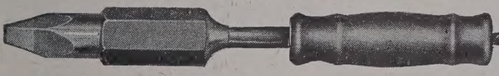


No. 120—Light tinware, toys, typewriter, light auto, etc. A high speed iron. 120 Watts. Tip diam., ⅝". Ship. wt., 1⅜ lb. Equal to 2-lb. old style copper........each **$8.00**

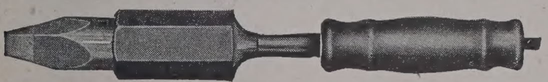


No. 130—Same as No. 120 except has larger tip and 10 more watts capacity. 130 Watts. Tip diam., ⅞". Ship. wt., 1⅝ lb. Equal to 2-lb. old style copper........each **$8.75**

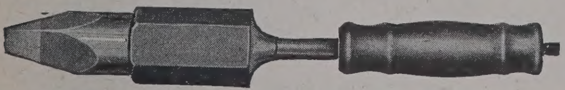
No. 170—Medium tinware, small cans, auto repairs, pipes, gutters, toys, small motors. 175 Watts. Tip diam., 1". Ship. wt., 2¼ lb. Equal to 2½-lb. old style copper........each **$10.00**



No. 225—Medium tinware, cans, auto repairs, metal patterns, light roofing, small branders. 250 Watts. Tip diam., 1⅛". Ship wt., 2⅝ lb. Equal to 3-lb. old style copper........each **$11.00**



No. 350—Heavy tinware, large cans, autos, roofing, refrigerators, ship and airplane. 350 Watts. Tip diam., 1⅜". Ship wt., 3⅜ lb. Equal to 4-lb. old style copper........each **$13.00**

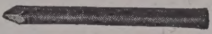


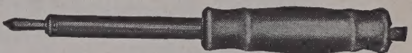
No. 500—Auto repair, sinks, roofs, cans, armatures, large branders, tinsmiths, etc. 500 Watts. Tip diam., 1⅝". Ship. wt., 4 lb. Equal to 5-lb. old style copper........each **$15.00**

No. 700—For extra heavy soldering and large branders. 700 Watts. Tip diam., 1¾". Ship. wt., 5 lbs. Equal to 7-lb. old style copper. each **$27.50**

OPERATE ON A.C. OR D.C., ANY CYCLE

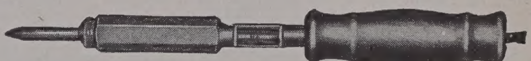
PLUG TIP IRONS





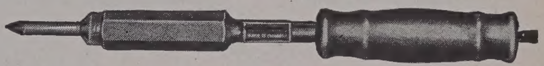
No. P-30—For extremely light soldering on finest wire and delicate instruments. 40 Watts. Tip diam., ¼". Ship. wt., ⅝ lb. Equal to ¼-lb. old style copper........each **$4.50**

No. P-70—For light soldering on radio and telephone apparatus and electrical instruments. 80 Watts. Tip diam., ⅜". Ship. wt., 1⅛ lb. Equal to 1-lb. old style copper........each **$6.00**



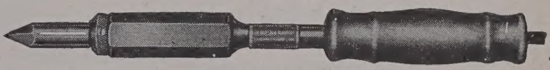
No. P-100—A high speed tool for telephone switchboards, electrical instruments, etc. 100 Watts. Tip diam., ⅜". Ship. wt., 1¼ lb. Equal to 1½-lb. old style copper........each **$7.00**

No. P-125—For light tinware, toys, typewriter type bars, small cans, auto, etc. 130 Watts. Tip diam., ⅝". Ship. wt., 1½ lb. Equal to 2-lb. old style copper........each **$8.50**



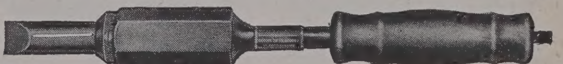
No. P-150—Extra high speed iron for radios, electrical apparatus and where a light iron with small diameter is required. 150 Watts. Tip diam., ⅜". Ship. wt., 1¾ lb. Equal to 1½-lb. old style copper each **$7.75**

No. P-151—Same as No. 150, except where a larger tip is desired. 175 Watts. Tip diam., ½". Ship. wt., 1¾ lb. Equal to 1¾ lb. old style copper........each **$8.25**

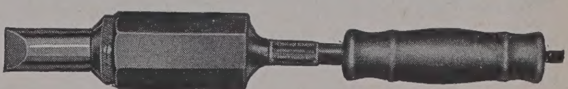


No. P-200—For medium tinware, cans, auto repairs, light roofing, sheet metal, etc. 200 Watts. Tip diam., ⅝". Ship wt., 2⅛ lb. Equal to 1½-lb. old style copper........each **$9.50**

No. P-250—Same as No. P-200, except where greater speed is required for manufacturing. 250 Watts. Tip diam., ⅝". Ship. wt., 2¼ lb. Equal to 3-lb. old style copper........each **$10.75**



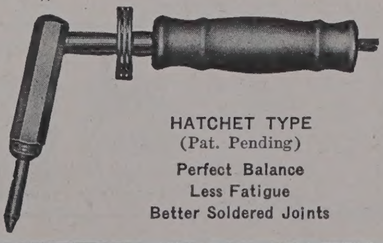
No. P-300—For heavy tinware, large cans, auto, roofing, refrigerator work, etc. 300 Watts. Tip diam., ⅞". Ship. wt., 2⅞ lb. Equal to 4-lb. old style copper........each **$12.50**



No. P-550—For auto radiators, copper sinks, roofs, heavy armatures, large branders, etc. 550 Watts. Tip diam., 1⅛". Ship. wt., 4⅛ lb. Equal to 5-lb. old style copper........each **$15.00**

SPECIFY VOLTAGE WHEN ORDERING

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Price
70H	80	⅜"	1⅜ lbs.	$ 8.00
100H	100	⅜"	1½ lbs.	9.00
150H	150	⅜"	2 lbs.	9.75
151H	175	½"	2 lbs.	10.25
200H	200	⅝"	2⅜ lbs.	11.50



HATCHET TYPE
(Pat. Pending)
Perfect Balance
Less Fatigue
Better Soldered Joints

HATCHET TYPE

For same use as Plug Tip irons of equal wattage, shown above. Replaceable elements and all other features of Plug Tip Irons.

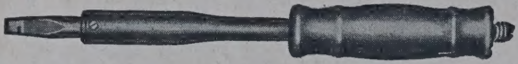
SOLDER MASTER
ELECTRIC SOLDERING IRONS

GENERAL INFORMATION—Replaceable elements. All except No. 55 are wound on metal core, with best grade of Madagascar mica for insulation. No. 55 has brass sheathed cartridge element. Best grade Nickel-chrome resistance wire used in all elements. Replaceable hard drawn copper tips, accurately made, tinned ready for use. All one piece swaged cases used, finished in gun metal. Bakelite terminal block used to relieve cord strain. Equipped with 6 ft. Underwriters' Approved heater cord, rubber plug and cord spring. European type plug 25c extra list. Stand for resting iron furnished. Voltage range: 32 to 250. **Standard voltages 110/120, 121/130, 220/250. All other voltages $1.00** extra list. No. 55 furnished in standard voltages only.

OPERATE ON A.C. OR D.C., ANY CYCLE
SPECIFY VOLTAGE WHEN ORDERING

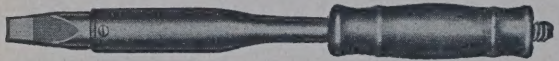
SCREW TIP IRONS

No. 55—For light soldering, radio apparatus, etc. 55 Watts. Tip diam., 7/16". Ship. wt., 13 oz. Equal to ½-lb. copper........each **$1.80**



No. 76—For light work, electrical instruments, etc. 75 Watts. Tip diam., ½". Ship. wt., 15 oz. Equal to 1-lb. copper..........each **$3.25**

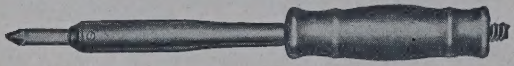
No. 100—Same as No 76 except used where more speed is required and heavier work is done. For home use. 90 Watts. Tip diam., ½". Ship. wt., 16 oz. Equal to 1¼-lbs. copper........................each **$3.75**



No. 150—Ideal size for garage and repair shop. For home use. 170 Watts. Tip diam., ⅞". Ship. wt., 24 oz. Equal to 1¾-lbs. copper each **$6.00**

No. 300—For heavy sheet metal, auto radiators, etc. 275 Watts. Tip diam., 1⅛". Ship. wt., 38 oz. Equal to 3-lbs. copper..each **$9.00**

PLUG TIP IRONS



No. 71—For light work, radio repairs, etc. 75 Watts. Tip diam., ⅜". Ship. wt., 16 oz. Equal to 1-lb. copper......................each **$3.25**

No. 101—For same work as No. 71, but where more speed is required or heavier work is done. For home use. 100 Watts. Tip diam., ⅜". Ship. wt., 18 oz. Equal to 1¼"-lbs. copper.............each **$3.75**

No. 201—For same work as No. 150, except where plug tip is desired. 200 Watts. Tip diam., ⅝". Ship. wt., 34 oz. Equal to 2½-lbs. copper ....each **$7.00**

No. 301—For same work as No. 300, except where plug tip is desired. 300 Watts. Tip diam., ⅞". Ship. wt., 46 oz. Equal to 4-lbs. copper ....each **$9.00**

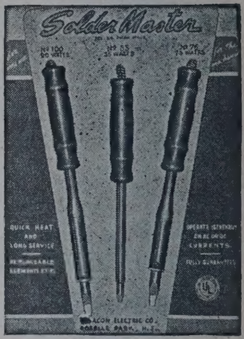
SOLDER MASTER DISPLAYS

INCREASE YOUR SALES WITH THESE SILENT SALESMEN

IRONS SECURELY MOUNTED, BUT READILY REMOVABLE FOR SALE

INDIVIDUALLY PACKED IN CARTONS, READY FOR SHIPMENT

CATALOG NUMBER & WATTAGE SHOWN ON FRONT OF DISPLAY

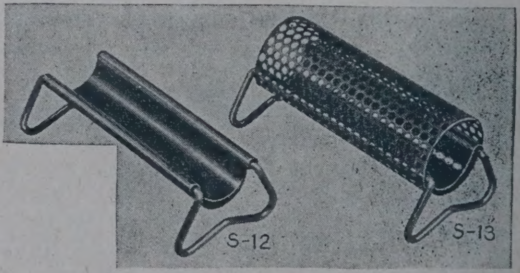


No. 5 Display
Size 12" x 16½"

COMBINED SCREW TIP AND PLUG TIP DISPLAYS

No.	Size	Ship. Wt.	List Price
1—Nine Iron Metal Scroll Type Display with Nos. 55, 76, 100, 150, 300, 71, 101, 201, 301....	15" x 17½"	20 lbs.	$46.80
2—Seven Iron Metal Scroll Type Display with Nos. 55, 76, 100, 150, 300, 71, 101..................	15" x 17½"	17 lbs.	30.80
ALL SCREW TIP DISPLAYS			
3—Five Iron Metal Scroll Type Display with Nos. 55, 76, 100, 150, 300	15" x 17½"	15 lbs.	23.80
5—Three Iron Cardboard Display with Nos. 55, 76, 100.............	12" x 16"	4 lbs.	8.80
ALL PLUG TIP DISPLAYS			
4—Five Iron Metal Scroll Type Display with Nos. 55, 71, 101, 201, 301	15" x 17½"	15 lbs.	24.80
6—Three Iron Cardboard Display with Nos. 55, 71, 101..............	12" x 16"	4 lbs.	8.80

STANDS



Price $0.60

Price $1.25

Cat. No.	Tip Only	Complete Iron with Bent Tip
76	$0.70	$3.45
100	.70	3.95
71	.70	3.45
101	.70	3.95
201	1.50	7.50
301	2.50	9.75

BENT TIP

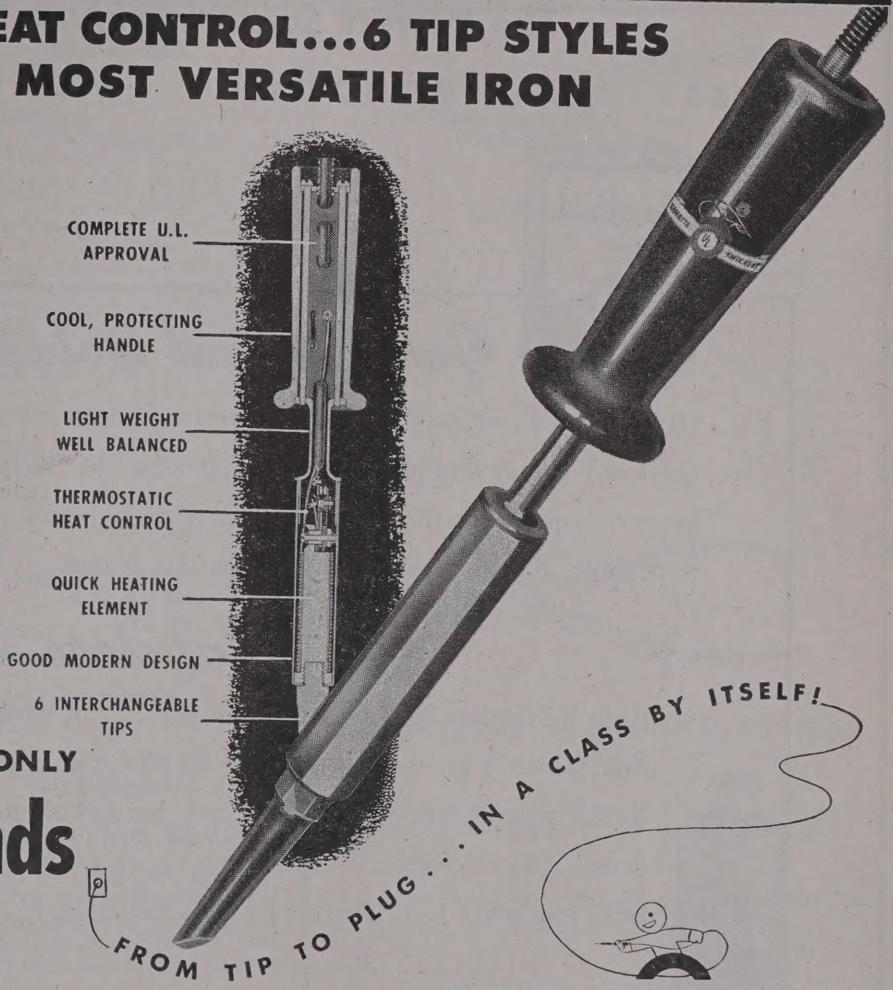
Bent Tip cannot be furnished for Nos. 55, 150 and 300.

TIP ADAPTER
No. 150

Permits use of No. 100 tip in No. 150 iron, **$.75**

VANATTA Kwikheat THERMOSTATIC SOLDERING IRON

BUILT-IN HEAT CONTROL...6 TIP STYLES AMERICA'S MOST VERSATILE IRON


COMPLETE U.L. APPROVAL
COOL, PROTECTING HANDLE
LIGHT WEIGHT WELL BALANCED
THERMOSTATIC HEAT CONTROL
QUICK HEATING ELEMENT
GOOD MODERN DESIGN
6 INTERCHANGEABLE TIPS
FROM TIP TO PLUG . . . IN A CLASS BY ITSELF!

LISTED UNDER REEXAMINATION SERVICE UL UNDERWRITERS LABORATORIES INC.

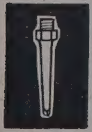
HEATS

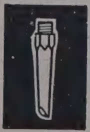
READY TO USE IN ONLY

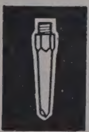
90 Seconds

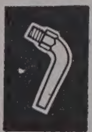
A built-in thermostat keeps the Vanatta Kwikheat Soldering Iron at correct temperature for most efficient work—can't overheat—saves retinning time. A Kwikheat Iron will do the soldering jobs of several ordinary irons and do them better because of a variety of interchangeable tip styles and controlled power. Check these exclusive advantages that put the Kwikheat Iron in a class by itself . . . it's *HOT,* ready to use only 90 seconds after plugging in . . . powerful, 225 watts, yet it's light (14 ozs.) — well balanced with a cool, safe, protecting handle. Six interchangeable tip designs enable a Kwikheat Iron to do most any soldering job. Ideal for radio work. Thousands of Kwikheat Irons now in use by some of largest precision manufacturers in the nation. Order your Kwikheat Soldering Iron and extra tip styles today.

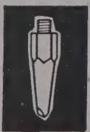
SIX INTERCHANGEABLE TIP STYLES

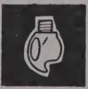

#0—$1.25


#1—$1.25


#2—$1.25


#3—$1.25


#4—$1.75


#5, Melting pot for tinning—$1.50

SPECIFICATIONS

Weight of iron with #1 tip	14 ozs.
Shipping weight per iron with #1 tip	1½ lbs.
Shipping weight per 6 irons with #1 tip each	9 lbs.
Length of iron with tip	14 in.
Length of cord	6 ft.

Type #300—225 Watts. 100-125 Volts AC

$11.00 LIST

Complete with choice of #0, #1, #2 or #3 tips

Set of tips, consisting of #0, 2, 3, 4, 5	$6.00

Rubyfluid

TRADE MARK REG.

The Perfect Soldering Flux

√ **SPEED** √ **ECONOMY** √ **CONVENIENCE**

Rubyfluid
SOLDERING AND TINNING
FLUX
THE RUBY CHEMICAL CO.

For General Soldering

RUBYFLUID FLUX OR PASTE (that meets government specifications) is easy and pleasant to use. It wets out freely and properly conditions the metals so that a strong, neat union is possible. No objectionable or dangerous fumes.

For Stainless Steel

Ruby's Stainless Steel Flux eliminates the many problems that formerly arose from attempts to join stainless steel. Stainless Steel producers recommend this special flux because: (1) No special equipment or excessive heat required; (2) Discoloration is eliminated.

POISON
Ruby's
Stainless Steel
Soldering Flux
THE RUBY CHEMICAL CO.

Rubyfluid
SOLDERING PASTE
FLUX

Always Specify RUBY the fast-acting flux

RUBY Acid Core and Rosin Core SOLDER

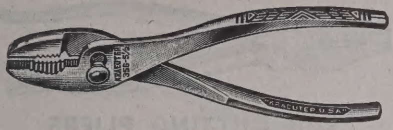
Easy-to-use Rubyfluid Solder comes with acid or rosin core wound on spools weighing from a few ounces to 20 pounds.

Rubyfluid
ACID CORE
SOLDER
Rubyfluid
SOLDER
ACID CORE
FLUX

THE RUBY CHEMICAL CO.

South MacDowell Street
Columbus 8, Ohio

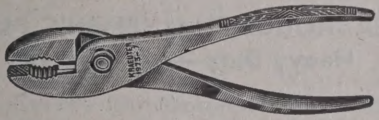
KRAEUTER
The choice of skilled mechanics



"GRIPTITE" COMBINATION PLIERS
New Pattern

These are of new design with slightly tapered nose, and are fitted with special non-slipping serrated edge wire cutters. The two larger sizes have **three slip-joint adjustments** which give a wider range of parallel grips on large nuts. No. 356 is furnished with the famous "Don't Slip" handle design. No. 355 is furnished with smooth handles.

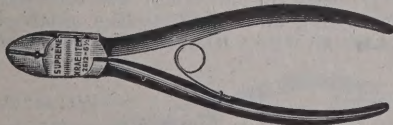
No.	Length	Finish	Wt. per doz.	Price Each
356	5½ in.	Full Nickel	3½ lbs.	$1.00
356	6 in.	" "	5¼ lbs.	1.25
356	8 in.	" "	8¾ lbs.	1.50
356	10 in.	" "	14 lbs.	2.00
355	5½ in.	Blue Temper	3½ lbs.	1.00
355	6 in.	" "	5¼ lbs.	1.25
355	8 in.	" "	8¾ lbs.	1.50
355	10 in.	" "	14 lbs.	2.00



COMBINATION SIDE CUTTING PLIERS

A very popular automotive combination slip-joint plier. Has side cutter suitable for cutting insulated or bare wire. Small groove in nose for holding cotter pins. No. 1973 is furnished with the famous "Don't Slip" handle design. No. 1972 is furnished with smooth handles.

No.	Length	Finish	Wt. per doz.	Price Each
1973	5½ in.	Full Nickel	3½ lbs.	1.90
1973	7 in.	" "	7¼ lbs.	2.20
1972	5½ in.	Blue Temper	3½ lbs.	1.55
1972	7 in.	" "	7¼ lbs.	1.80

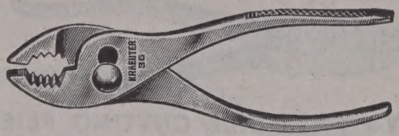


RADIO PLIERS

Diagonal cutting pliers specially developed for close cutting in radio and radio tube work.

No.	Length	Finish	Wt. per doz.	Price Each
2612	6 in.	Blue Temper	3 lbs.	2.00

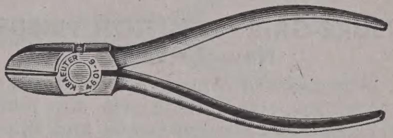
This is only a partial listing of Kraeuter Pliers. Send for Catalog.



COMBINATION PLIERS

These well-made sturdy pliers are designed to meet the demand for medium priced good quality pliers that will give good service.

No.	Length	Finish	Wt. per doz.	Price Each
36	6 in.	Dull Nickel	6 lbs.	$.40
38	8 in.	" "	7 lbs.	.55
310	10 in.	" "	12¾ lbs.	.85
46	6 in.	Full Nickel	6 lbs.	.55
48	8 in.	" "	7 lbs.	.85

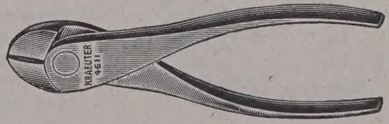


ELECTRICIANS' DIAGONAL CUTTING PLIERS

Longer jaws and made especially for close cutting. Forged from special plier steel and finely fitted for exact work.

No.	Length	Finish	Wt. per doz.	Price Each
4601	4½ in.	Full Polished	1½ lbs.	1.85
4601	5 in.	" "	2¾ lbs.	2.00
4601	5½ in.	" "	3¼ lbs.	2.20
4601	6 in.	" "	3¾ lbs.	2.30
4601	7½ in.	" "	6 lbs.	2.65
4501	4½ in.	Blue Temper	1½ lbs.	1.50
4501	5 in.	" "	2¾ lbs.	1.65
4501	5½ in.	" "	3¼ lbs.	1.75
4501	6 in.	" "	3¾ lbs.	1.90
4501	7½ in.	" "	6 lbs.	2.20

Also Furnished in K Brand.



EXTRA HEAVY DIAGONAL CUTTING PLIERS

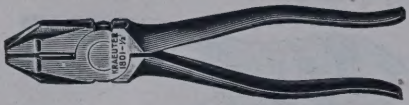
Designed to meet the demand for a larger and more powerful diagonal cutter. Is practically unbreakable. Joint is extra heavy and rigid.

No.	Length	Finish	Wt. per doz.	Price Each
4611	7 in.	Full Polished	5¾ lbs.	2.25
4610	7 in	Blue Temper	5¾ lbs.	1.95

Also Furnished in K Brand.

KRAEUTER

The choice of skilled mechanics

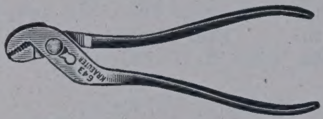


HY-POWER SIDE CUTTING PLIERS

Useful for heavy duty jobs of wire cutting and twisting. Very strongly constructed and have extra tough jaws.

No.	Length	Finish	Wt. per doz.	Price Each
1801	6 in.	Blue Temper	5¼ lbs.	$1.90
1801	7 in.	" "	7½ lbs.	2.20
1801	8½ in.	" "	11¼ lbs.	2.50

Also Furnished in K Brand.



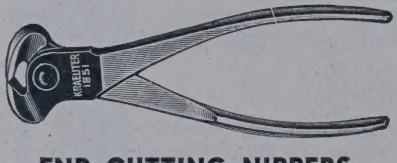
"SURE-GRIP" IGNITION PLIERS
New Pattern

A handy little plier to replace 10- or 12-piece sets of ignition wrenches. Has bulldog grip, slip joint adjustment, serrated teeth, narrow nose, and thin, strong, shaped handles.

Can be used to advantage on distributor, generator, magneto, carburetor, dash panel connections, and on any small or awkwardly placed nuts.

Instantly adjustable and a marvelous time saver.

No.	Length	Finish	Wt. per doz.	Price Each
643	5 in.	Blue Temper	1 lb.	1.10

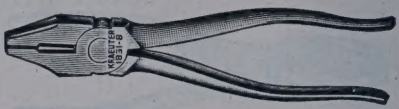


END CUTTING NIPPERS

A strong, easy-cutting single joint nipper. The jaw is compact and the rivet lies close to the edge, affording maximum leverage. A quick-action tool, forged of high-grade tool steel with sharp, enduring cutters.

No.	Length	Finish	Wt. per doz.	Price Each
1851	5 in.	Full Polished	4½ lbs.	1.60
1851	6 in.	" "	6 lbs.	1.80
1851	7 in.	" "	8 lbs.	2.20
1851	8 in.	" "	10½ lbs.	2.50

Spring in Handle .... .35

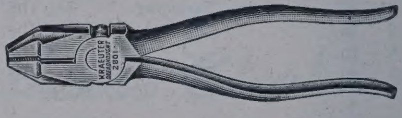


SIDE CUTTING PLIERS

Used extensively for electrical and general wiring work. Strongly constructed with sturdy wire cutters. A very popular style.

No.	Length	Finish	Wt. per doz.	Price Each
1831	4 in.	Full Polished	1½ lbs.	$1.55
1831	5 in.	" "	2¼ lbs.	1.75
1831	6½ in.	" "	4¾ lbs.	2.00
1831	7 in.	" "	6¾ lbs.	2.25
1831	8 in.	" "	8¼ lbs.	2.50
1830	4 in.	Blue Temper	1½ lbs.	1.25
1830	5 in.	" "	2¼ lbs.	1.40
1830	6½ in.	" "	4¾ lbs.	1.60
1830	7 in.	" "	6¾ lbs.	1.75
1830	8 in.	" "	8¼ lbs.	1.90

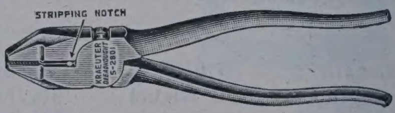
Also Furnished in K Brand.



"DREADNOUGHT" LINEMEN'S PLIERS
Heavy Duty—Lap Jointed

Powerful and durable—wonderful strength and cutting power. Drop forged—perfectly hardened, accurately fitted.

No.	Length	Finish	Wt. per doz.	Price Each
2801	6 in.	Full Polished	5¼ lbs.	2.50
2801	7 in.	" "	7½ lbs.	2.75
2801	8½ in.	" "	11¼ lbs.	3.25

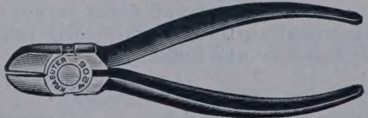


WITH STRIPPING NOTCH

Extensively used on electrical outside lighting fixtures, for cutting and stripping the asbestos insulation on 14 gauge wire without injury to the wire.

No.	Length	Finish	Wt. per doz.	Price Each
S2801	6 in.	Full Polished	5¼ lbs.	2.75
S2801	7 in.	" "	7½ lbs.	3.00
S2801	8½ in.	" "	11¼ lbs.	3.50

DIAGONAL HARD WIRE CUTTERS



No. 4206

This tool was designed for cutting hardened wire. Will cut up to $\frac{1}{16}''$ diameter. Also suitable for general use.

No.	Length	Finish	Wt. per doz.	Price Each
4206	6 in.	Blue Temper	4½ lbs.	2.00

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS . . . . SEND FOR CATALOG

KRAEUTER

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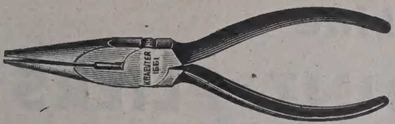
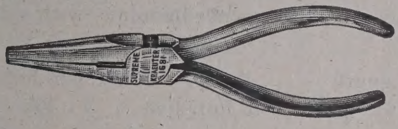


NEEDLE NOSE SIDE CUTTING PLIERS

A fine slender nosed, tapered point plier. Handy on all ignition work and on generators, starters, switch work, etc.

No.	Length	Finish	Wt. per doz.	Price Each
1661	6 in.	Blue Temper	3½ lbs.	**$1.70**
1671	Same without cutter		3½ lbs.	**1.50**
1662	6 in.	Polished Steel	3½ lbs.	**1.90**
1672	Same without cutter		3½ lbs.	**1.65**

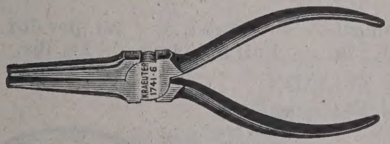
Also Furnished in K Brand.



LONG NOSE SIDE-CUTTING CHAIN PLIERS

The long slender jaws are milled inside, and the side-cutters are built to cut. An easy operating plier with sturdy joint.

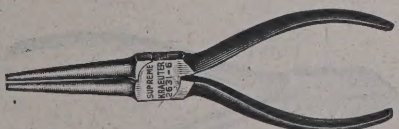
No.	Length	Finish	Wt. per doz.	Price Each
1681	6 in.	Blue Temper	3¾ lbs.	**1.75**



EXTRA LONG REACH FLAT NOSE PLIERS

The long, flat nose is nicely tapered and beveled. No cutter. Adaptable to all the uses of a flat nose plier with the added feature of an extremely long nose.

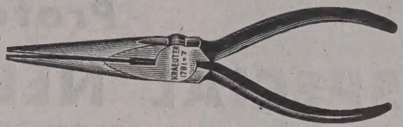
No.	Length	Finish	Wt. per doz.	Price Each
1741	6 in.	Blue Temper	3 lbs.	**1.60**
1751	Same with Cutter		3 lbs.	**1.80**



FINE ROUND NOSE—EXTRA LONG PLIERS

Specially developed for radio and radio tube work. Long round nose jaws milled on the end. Extensively used by leading manufacturers.

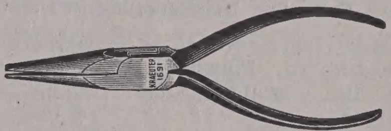
No.	Length	Finish	Wt. per doz.	Price Each
2631	6 in.	Blue Temper	2¾ lbs.	**$1.65**



EXTRA LONG NOSE PLIERS

Very popular with auto mechanics and repair men. Especially good for radiator repair work and in places difficult to reach. Used on auto ignition work on generators, starters, switch work, etc., and on speedometer repair work. Length of jaw 2¾ in.

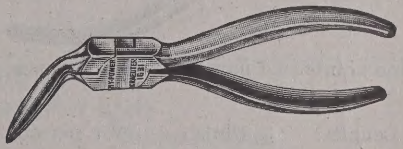
No.	Length	Finish	Wt. per doz.	Price Each
1781	7 in.	Blue Temper	3 lbs.	**$1.90**
1771	Same without Cutter		3 lbs.	**1.60**
1782	7 in.	Polished Steel	3 lbs.	**2.20**
1772	Same without cutter		3 lbs.	**1.80**



LONG NOSE CHAIN PLIERS

Designed for use as a half-round nose, chain nose and flat nose plier. Made without cutter.

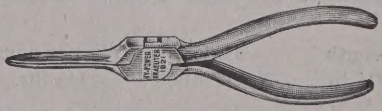
No.	Length	Finish	Wt. per doz.	Price Each
1691	6 in.	Blue Temper	2¾ lbs.	**1.65**



CURVED NEEDLE NOSE PLIERS

Spring tempered, long curved nose pliers for unusual jobs. Used for any awkward job.

No.	Length	Finish	Wt. per doz.	Price Each
1631	5½ in.	Blue Temper	2¼ lbs.	**1.85**
1632	5½ in.	Polished Steel	2¼ lbs.	**2.10**



LONG FINE NEEDLE NOSE PLIERS

This pattern is especially made for difficult and odd jobs where no other plier will answer. Especially useful for auto mechanics and vulcanizers. Its capacity for fine work is unusual. The long, fine nose is very carefully tempered.

No.	Length	Finish	Wt. per doz.	Price Each
1621	6 in.	Blue Temper	2¼ lbs.	**1.75**
1622	6 in.	Polished Steel	2¼ lbs.	**1.90**

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KRAEUTER

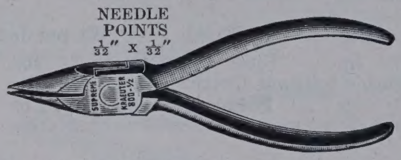
The choice of skilled mechanics

Professional Line

SPECIAL NEEDLE-POINT PLIERS

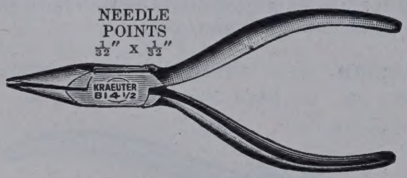
FOR RADIO - ELECTRICAL - OPTIÇAL AND JEWELRY WORK

These extra fine needle-point pliers are specially designed for light professional use in the radio, electrical, optical and jewelry field. They are invaluable where delicate adjustments have to be made. (Nose of these Piers Not Guaranteed.)


NEEDLE
POINTS
1/32" x 1/32"
SUPREME
KRAEUTER

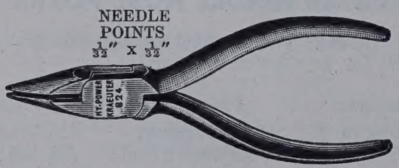
Short Nose Extra-fine Needlepoints—without cutter.

No.	Length	Finish	Wt. per doz.	Price Each
800	4 in.	Full Polished	1½ lbs.	$1.50
800	4½ in.	" "	1¾ lbs.	1.60
800	5 in.	" "	2¼ lbs.	1.70
800	5½ in.	" "	3 lbs.	1.80
800	6 in.	" "	3¾ lbs.	1.90


NEEDLE
POINTS
1/32" x 1/32"
KRAEUTER
814 1/2

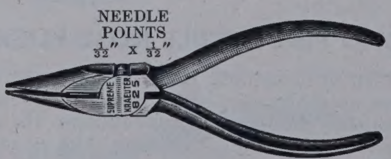
Extra fine points and narrow jaw—fine nose—without cutter.

No.	Length	Finish	Wt. per doz.	Price Each
814	4½ in.	Full Polished	1½ lbs.	$1.60


NEEDLE
POINTS
1/32" x 1/32"
HY-POWER
KRAEUTER
824

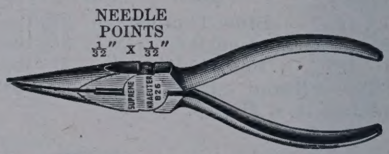
Short-Nose extra fine needlepoint—with side cutter.

No.	Length	Finish	Wt. per doz.	Price Each
824	4½ in.	Full Polished	1½ lbs.	$1.80


NEEDLE
POINTS
1/32" x 1/32"
SUPREME
KRAEUTER
825

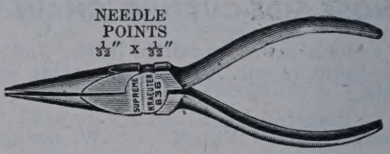
Short-Nose extra fine needlepoint—with side cutter.

No.	Length	Finish	Wt. per doz.	Price Each
825	5 in.	Full Polished	2¼ lbs.	$1.90


NEEDLE
POINTS
1/32" x 1/32"
SUPREME
KRAEUTER
826

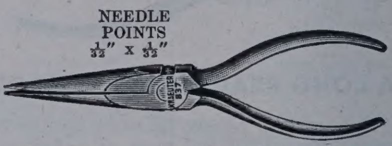
Medium-Nose extra fine needlepoint—with side cutter.

No.	Length	Finish	Wt. per doz.	Price Each
826	6 in.	Full Polished	3 lbs.	$2.00


NEEDLE
POINTS
1/32" x 1/32"
SUPREME
KRAEUTER
836

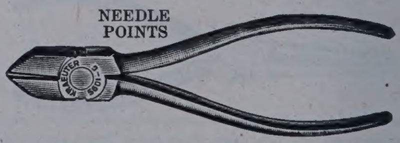
Medium-Nose extra fine needle points—without cutter.

No.	Length	Finish	Wt. per doz.	Price Each
836	6 in.	Full Polished	2¾ lbs.	$1.75


NEEDLE
POINTS
1/32" x 1/32"
KRAEUTER
837

Long-Nose extra fine needlepoints—without çutter.

No.	Length	Finish	Wt. per doz.	Price Each
837	7 in.	Full Polished	3¾ lbs.	$1.90
827	Same with Cutter		3¾ lbs.	2.20

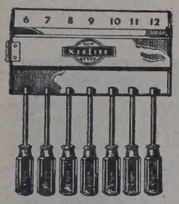

NEEDLE
POINTS
KRAEUTER
5601

Radio and Electrical Fine Nose Diagonal.

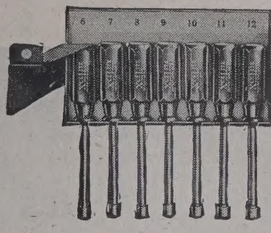
No.	Length	Finish	Wt. per doz.	Price Each
5601	4½ in.	Full Polished	2 lbs.	$2.00
5601	5 in.	" "	2¾ lbs.	2.25
5601	5½ in.	" "	3¼ lbs.	2.45
5601	6 in.	" "	3¾ lbs.	2.60

Quality XCELITE Tools

XceLite NUT DRIVERS



READY FOR QUICK WORK
Here's how to arrange Xcelite Nut Drivers—up side down—in the holder for maximum convenience and efficiency.



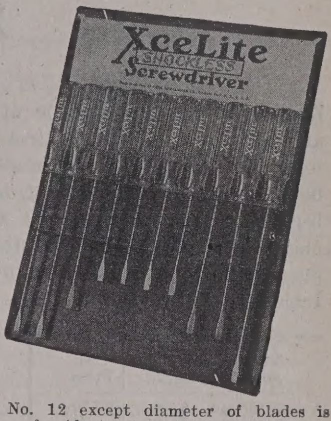
DELUXE SET IN HANDY HOLDER . . .

Handles of Different colors to Indicate Size. (Pat. App'd For).

- A great set of tools—and a great time-saver. Each nut driver has a different colored handle to show at a glance its size—no fumbling—no squinting to read printed sizes. Handles are made of special plastic which is shatter-proof, shock-proof, fire proof. Shafts and sockets of high carbon steel, case hardened by special process insuring extreme depth of case. Sockets are precision formed, deep enough to handle two nuts.

Attractive, green finished, metal tool holder (Pat. App'd For) has two screw holes for attaching, and lock bar which covers the nut holders (and the attachment screws) and has eyelets for padlock. Over-all size of tool holder and nut drivers, 7½" x 7¼" x 1¼". Finish of Deluxe Nut Drivers subject to government decree.
List, complete set with holder..$6.10

Color of Handles	Number	Nut Size	List Price
Black..............	6	3/16"	$0.80
Brown..............	7	7/32"	.80
Red..............	8	¼"	.80
Orange..............	9	9/32"	.80
Yellow..............	10	5/16"	.80
Green..............	11	11/32"	.80
Blue..............	12	⅜"	.80



No. 10 DISPLAY — This Display consists of 10 screwdrivers with 5/32" chrome plated blades in assorted lengths of 3", 4" and 5" all mounted on a very attractive metal display.

List Price, Complete..$5.65

List Price, ea. S.D. .. .55

No. 12 DISPLAY — Radio and Ignition Screwdrivers come complete with Pocket Klips assorted with 2", 3" and 4" chrome plated blades in the popular ⅛" diameter size. Packed 12 on an attractive metal display.

List Price, Complete..$3.75

List Price, ea. S.D..... .30

No. 332 Display—Same as No. 12 except diameter of blades is 3/32". Fits screws on knobs of midget sets; also for fine instrument work. List Price, Complete....$3.15 List Price, ea. S.D. .25

No. 24 DISPLAY—The popular XceLite pocket screwdriver (another original XceLite introduction) has a ⅛" diameter chrome plated blade, 2" in length. Comes 24 on an attractive metal display.
List Price, Complete ....$7.40 List Price, ea. S.D.........$0.30

PHILLIPS SCREWDRIVERS

XceLite Handles — Alloy Steel Blades

Cat. No.	Description Blade	No. in Box	Weight per box	List Price
X-101	3/16" diam., 3" length	6	⅞ lb.	$0.85
X-102	¼" diam., 4" length	6	1¼ lb.	1.25
X-103	5/16" diam., 6" length	6	2¼ lb.	1.75
X-104	⅜" diam., 8" length	6	3¼ lb.	1.95
SSX-101	3/16" diam., Stubby	6	½ lb.	.80
SSX-102	¼" diam., Stubby	6	1¼ lb.	.90

PHILLIPS SCREWDRIVERS — Wooden Handles

P 101	3/16" diam., 3" length	6	½ lb.	$0.60
P-102	¼" diam., 4" length	6	1¼ lb.	.60
P-103	5/16" diam., 6" length	6	2 lb.	.75
P-104	⅜" diam., 8" length	6	3¾ lb.	1.00
SP-101	3/16" diam., Stubby	12	⅝ lb.	.60
SP-102	¼" diam., Stubby	12	1¼ lb.	.60

XCELITE SHOCKLESS SCREWDRIVERS

Complete Xcelite Screwdriver Prist Lists

Square Blades

Number	Size Blade	List	Weight Box of 10	
S-183	⅛"x 3"	$ .45	½ lb.	
S-184	⅛"x 4"	.45	½ lb.	
S-185	⅛"x 5"	.45	½ lb.	
†SH-183	⅛"x 3"	.50	½ lb	
†SH-184	⅛"x 4"	.50	½ lb.	
†SH-185	⅛"x 5"	.50	½ lb.	
S-3163	3/16"x 3"	.70	1¾ lb.	
S-3164	3/16"x 4"	.75	1¾ lb.	
S-3166	3/16"x 6"	.80	2 lb.	
S-3168	3/16"x 8"	.85	2 lb.	
S-31610	3/16"x10"	.95	2¼ lb.	
S-142	¼"x 2"	.80	1¾ lb.	
S-144	¼"x 4"	.85	2 lb.	
S-146	¼"x 6"	.90	2½ lb.	
S-148	¼"x 8"	1.00	3 lb.	
S-5162	5/16"x 2"	.85	2 lb.	
S-5166	5/16"x 6"	1.10	3¾ lb.	
S-5168	5/16"x 8"	1.20	4¼ lb.	
S-51610	5/16"x10"	1.30	4¾ lb.	
S388	⅜"x 8"	1.60	6 lb.	
S-3812	⅜"x12"	2.25	4¾ lb.	5 in box
S-7166	7/16"x 6"	1.90	3¾ lb.	
S-71612	7/16"x12"	2.35	5¼ lb.	
S-71618	7/16"x18"	2.60	6¾ lb.	

Stubbies

S-3161	3/16"x 1"	.55	¾ lb.
S-141	¼"x 1"	.65	1¼ lb.
S-5161	5/16"x 1"	.65	¼ lb.

Large double-grip handles.
†Screwholding type used on SH-12 Display.

Round Blades

Number	Size Blade	List	Weight Box of 10	
*R-3322	3/32"x 2"	$ .25	½ lb.	4 ea. on 332 Display
*R-3323	3/32"x 3"	.25	½ lb.	
*R-3324	3/32"x 4"	.25	½ lb.	4 ea. used on #12 Display
**R-181	⅛"x 2"	.30	½ lb.	
*R-183	⅛"x 3"	.30	½ lb.	
*R-184½	⅛"x 4"	.30	½ lb.	
††R-184	⅛"x 4"	.45	½ lb.	
††R-186	⅛"x 6"	.50	¾ lb.	
††R-188	⅛"x 8"	.55	1 lb.	
††R-1810	⅛"x10"	.60	1 lb.	
R-5323	5/32"x 3"	.55	1 lb.	
R-5324	5/32"x 4"	.55	1 lb.	3 ea. on #10 Display
R-5325	5/32"x 5"	.55	1 lb.	
R-5328	5/32"x 8"	.65	1¼ lb.	
R-3163	3/16"x 3"	.65	1½ lb.	
R-3164	3/16"x 4"	.70	1½ lb.	
R-3166	3/16"x 6"	.75	1¾ lb.	
R-3168	3/16"x 8"	.80	1¾ lb.	
R-31610	3/16"x10"	.90	2 lb.	
R-144	¼"x 4"	.80	2 lb.	
R-146	¼"x 6"	.85	2¼ lb.	
R-148	¼"x 8"	.95	2½ lb.	
R-5166	5/16"x 6"	1.05	3½ lb.	
R-5168	5/16"x 8"	1.15	4 lb.	

**24 of this number used on #24 display.
*These numbers have ½" dia. handles.
††These numbers have ⅝" dia. handles. For insulated blades any size in round list add 25 cents to list price.
There's an XceLite Screwdriver 'sized" to fit every job.

Note: We have standardized our packages on the decimal system instead of in dozen, in accordance with Government practice. All screwdrivers and nut drivers will be packed ten in a box, except where otherwise noted (excptions are large sizes or slow moving items). Weights given above are correct to the nearest quarter-pound limit.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Quality XCELITE *Tools*

XCELITE NUT DRIVERS

(Fire Resistant Handles)

Deep hex. sockets capable of handling two nuts are truly formed and entirely free from burrs—tempered and finished, handles of genuine amber XceLite are shockproof, breakproof and comfortable. Can be furnished with fully insulated shank if desired. Display stand holds 7 popular sizes either 6″ or 9″ long overall. Can also be furnished with 5 wrenches.

Nut Size	No. and Length	List Price	No. and Length	List Price
3/16″	No. 6—6″	$0.70	No. A 6—9″	$0.80
7/32″	No. 7—6″	.70	No. A 7—9″	.80
1/4″	No. 8—6″	.70	No. A 8—9″	.80
9/32″	No. 9—6″	.70	No. A 9—9″	.80
5/16″	No. 10—6″	.70	No. A10—9″	.80
11/32″	No. 11—6″	.70	No. A11—9″	.80
3/8″	No. 12—6″	.70	No. A12—9″	.80
7/16″	No. 14—6½″	.90	No. A14—9″	.95
1/2″	No. 16—6½″	.90	No. A16—9″	.95

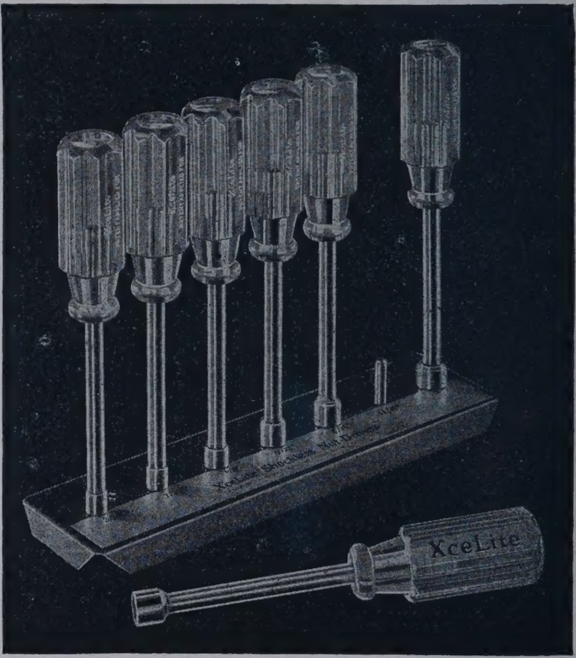
Average weight 2 lbs. per dozen

NOTE

For insulated shanks on No. 6 thru 16................$0.20 list extra
For insulated shanks on A6 thru A16.................. .25 list extra

NUT DRIVER DISPLAYS

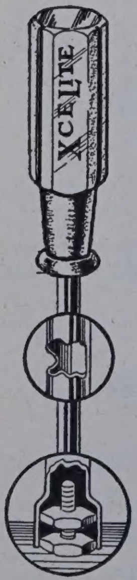
No.	List Price
15—Nut Driver Display complete with 5 wrenches Nos. 6, 8, 10, 11, 12	$3.80
17—Nut Driver Display complete with 7 wrenches No. 6 to No. 12	5.25
15—Display Rack only (holds 5 wrenches)	.30
17—Display Rack only (holds 7 wrenches)	.35



No. 17—Nut Driver Display

HOLLOW SHAFT NUT DRIVERS

(Fire Resistant Handles)



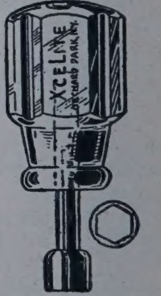
This unique, time-saving tool was especially designed for general electrical and radio work. In radio, it is primarily useful in installing and removing volume control and other panel equipment. The nut is readily tightened or loosened without damage to the panel. On telephone or power switchboards, the Hollow Shaft Nut Driver is especially useful where nuts must be installed or removed over long protruding bolts or studs — made with or without insulated shafts. The former for use with high voltage work. Shafts insulated for protection up to 1000 volts; handles to 5000 volts.

Nut Size	Depth of Hole	No. and Length Overall	Weight per Box	List	Insulated List
5/16″	2¼″	HS-10 6″	1 lbs.	$0.90	$1.10
11/32″	2¼″	HS-11 6″	1 lbs.	.90	1.10
⅜″	5″	HS-12 6″	1 lbs.	1.15	1.35
7/16″	5″	HS-14 6″	1¼ lbs.	1.20	1.40
½″	5″	HS-16 6″	1½ lbs.	1.25	1.45
9/16″	5″	HS-18 6″	1⅜ lbs.	1.30	1.50
⅝″	5″	HS-20 7″	1⅞ lbs.	1.50	1.70

STUBBY NUT DRIVERS

These tools have all the features of the regular XCELITE Nut Drivers, plus the advantage of a short shank for working in close or difficult quarters where a powerful grip is required. The Stubby Nut Driver is a mighty practical tool for installing car radios, working around carburetors, fuel pumps, shock absorbers, etc. Made in ¼″, 5/16″, and ⅜″ sizes, with extra-deep hexagon sockets to handle two nuts at once.

Sockets are truly formed and free of burrs. They are tempered and fully finished. Handles are genuine shockproof XceLite.



Handle, 1¼″ diameter

Overall Length 3¼″

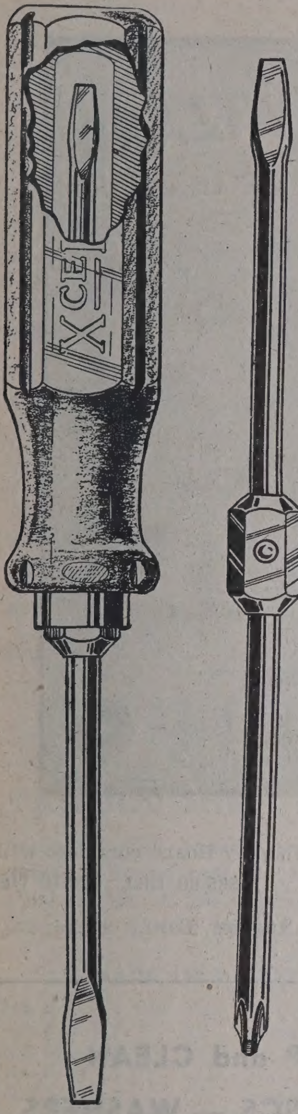
Shaft, 1¼″ hollow

Weight per doz., 1½ lbs.

List Price

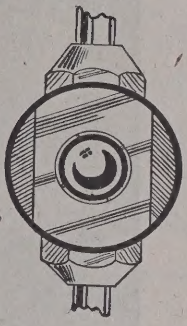
$0.70

Quality XCELITE *Tools*



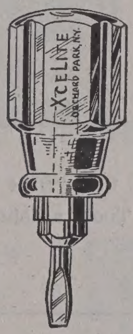
XCELITE "Combination Detachable" SCREWDRIVER

Here's convenience — and saving — combined in a mighty unique and useful tool. The XCELITE Combination Detachable Screwdriver has a genuine XceLite Shockless Handle, hollow to receive the dual-blade screwdriver units listed below. With this practical XceLite handle and, for example, a No. 2 Phillips blade on one end and a ¼″ XceLite blade on the other, you have **two** screwdrivers for just about the price of one! What's more, you can buy blades of other sizes to fit the same handle. Note the unique ball fastener on the blade. This holds the screwdriver unit securely in place—yet readily slips out when desired.



BALL FASTENER

STUBBY TYPE



BLADE COMBINATIONS

(Order by Number

No. 1—No. 1 Phillips and $\frac{3}{16}$″ XceLite
No. 2—No. 2 Phillips and ¼″ XceLite
No. 3—No. 3 Phillips and $\frac{5}{16}$″ XceLite

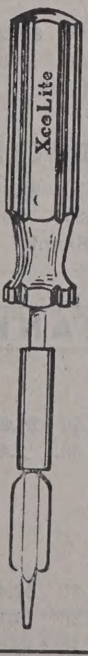
STUBBY TYPE (overall length 3″)

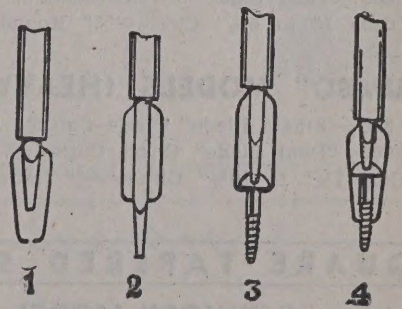
No. S-1 Stubby—No: 1 Phillips and ⅛″ XceLite
No. S-2 Stubby—No. 2 Phillips and ¼″ XceLite

PRICES

	Regular List	Stubby List
Complete	$1.45	$1.10
Extra Handles	.75	.65
Extra Blades	.75	.50

SCREW-HOLDING SCREWDRIVER



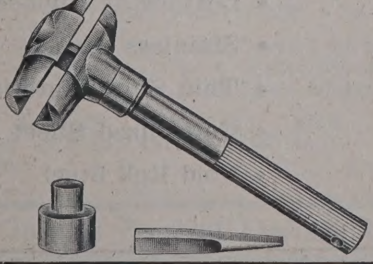


The XceLite Screw-Holding Screw Driver is a tool for which electricians, radio men and mechanics everywhere have long searched. It is a genuine XceLite product with a unique attachment that instantly and rigidly holds and starts any screw, even one without a head. Spring holder remains in place either above, below or exactly at the driver point. Grasps the screw at the head or ⅜″ below giving three point suspension for greater rigidity. Can also be used for removing screws. Comes in ⅛″ square blade, 3″, 4″ and 5″. Packed 12 assorted lengths on metal display.

	List
Display, complete	$6.15
Each	.50

6" XCEL Adjustable SOCKET WRENCH (wth Attachments)

A whole set of tools in one! Easy, light-weight tool handle; yet super tough due to its drop-forged construction of special chrome nickel steel. Chrome finished. Fits any size nut, hexagon or square, round or odd shaped, from ¼″ to 1″. Has two mighty useful attachments—hammer head of unbreakable XCELITE and alloy steel screwdriver to insert in small end of wrench to form offset screwdriver.



List Price, complete, $1.75

Individually boxed, packed 6 to a self-selling display carton.

Weight, 6 lbs.

Blue Wizard Adjustable Circle Cutters

Rugged improved circle cutters for making holes from 1″ to 10″ in diameter. Designed to cut accurately and quickly any materials listed below. May be used in slow-speed drill press or ordinary hand-brace. A practical tool priced so low that no shop can afford to be without it. Ideal for all kinds of radio construction work. All cutting bits are made of special high speed steel and are easily replaced with new ones or removed for sharpening.

THE SILENT SALESMAN

A Display Board for the Dealer's store consisting of 10 different sizes and types of circle cutters with samples of materials that the tool is capable of cutting, will greatly stimulate sales in the store. See photograph of Display Board to the right.

PRICES—ROUND SHANK

"JUNIOR" MODEL

	List Price	Net Price
No. 100—"Single Blade" Circle Cutter	$1.70	$1.28
No. 700—"Dual Blade" Circle Cutter	2.80	2.10

Cuts 1″ to 6½″ Circle—⅜″ Round Shank

"STANDARD" MODELS

	List Price	Net Price
No. 200—"Single Blade" Circle Cutter	$2.50	$1.88
No. 800—"Dual Blade" Circle Cutter	3.30	2.48

Cuts 1″ to 6½″ Circle—⅜″ Round Shank

"JUMBO" MODELS (HEAVY DUTY)

	List Price	Net Price
No. 300—"Single Blade" Circle Cutter	$4.20	$3.15
No. 900—"Dual Blade" Circle Cutter	5.80	4.35

Cuts 1¼″ to 10½″ Circle—½″ Round Shank

SQUARE TAPERED SHANK

"JUNIOR" MODEL

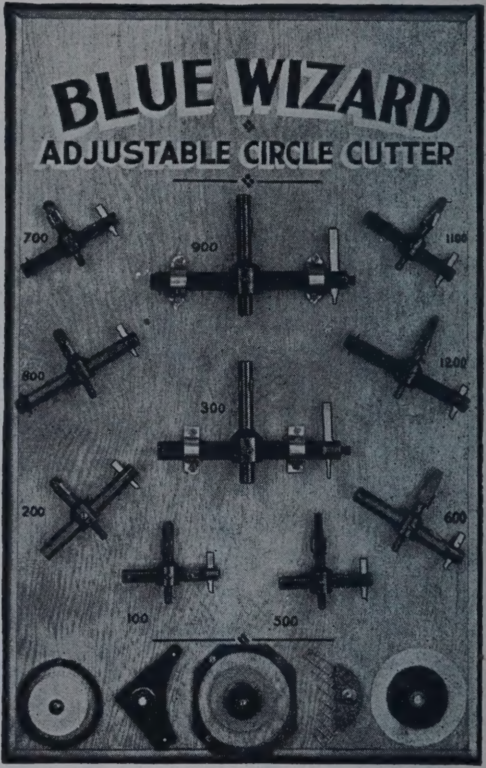
	List Price	Net Price
No. 500—"Single Blade" Circle Cutter	$2.50	$1.88
No. 1100—"Dual Blade" Circle Cutter	3.30	2.48

Cuts 1″ to 5″ Circle

"STANDARD" MODEL

	List Price	Net Price
No. 600—"Single Blade" Circle Cutter	$3.30	$2.48
No. 1200—"Dual Blade" Circle Cutter	4.20	3.15

Cuts 1″ to 6½″ Circle



No. (10) "Blue Wizard" Display Board complete with 10 Tools as shown.........................$35.60 List $26.70 Net

F.O.B. Los Angeles, Calif.

Cut SHARP and CLEAN

CIRCLES — DISCS — WASHERS

GASKETS

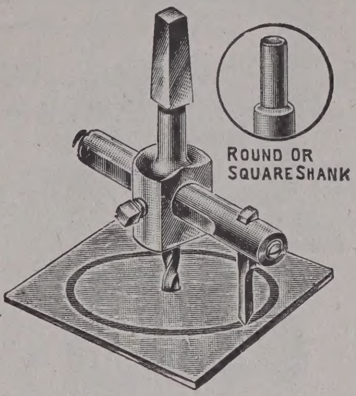
in

- Wood or Cork
- Bakelite or Fibre
- Leather or Rubber
- Stainless Steel
- Thin Shim Material
- Galvanized Sheet Iron
- Cold Roll Steel

MECHANICS TOOLS GENERAL RULES AND GAUGES

No. 5 PAWOOD CIRCLE CUTTERS

- FOR RADIO, ELECTRICAL, AUTOMOTIVE, HOBBYCRAFT, AND OTHER TRADES.
- INSTANTLY ADJUSTABLE
- STURDY CONSTRUCTION
- MODERATELY PRICED



For CUTTING ROUND HOLES in Steel, Brass, Aluminum, Wood, Plastic, Hard Rubber, Fibre, etc. Easily adjusted to cut holes from 1″ to 6″ diameters.

Drill acts as Center Pilot.

Equipped with High Speed Blades.

MADE IN 3 STYLES

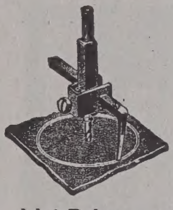
No. 5—Square Shank	$2.50 ea.
No. 5—$\frac{5}{16}$″ Round Shank	2.50 “
No. 4—½″ Round Shank	2.50 “
Extra Blades	* .30 “
Extra Drills	* .30 “

JUNIOR CIRCLE CUTTER

A moderate price tool for amateur or light work.

Equipped with carbon steel drill and cutting bit.

Cuts holes ⅝″ to 2½″ dia.



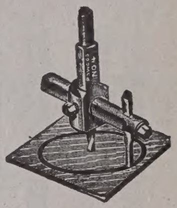
	List Price
JUNIOR SIZE	$1.00 ea.
Extra Blades or Drills	* .30 “

No. 4 CIRCLE CUTTER

Similar to No. 5 shown above except smaller.

Easily adjusted and will cut holes from ⅞″ to 4″ dia.

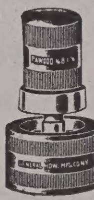
Has combination Round and Square Shank for either drill chuck or brace.



No. 4 CIRCLE CUTTER	$1.75 ea.
Extra Blades or Drills	* .30 “

PAWOOD SHEET METAL PUNCHES

A simple and speedy method of punching round holes in steel and other metals. A few hammer blows punches a perfect hole.



MADE IN 8 SIZES

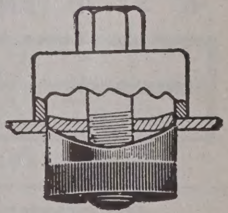
No. 8— ¾″	Dia.	$2.50 set
No. 8— ⅞″	“	2.50 “
No. 8— 1″	“	2.70 “
No. 8—1⅛″	“	2.70 “
No. 8—1$\frac{3}{16}$″	“	2.70 “
No. 8—1¼″	“	2.70 “
No. 8—1⅜″	“	2.70 “
No. 8—1½″	“	3.00 “

(TEMPORARILY DISCONTINUED)

GENERAL RADIO CHASSIS PUNCHES

A fast and easy method of cutting Socket Holes, especially on assembled chassis.

SCREW ACTION . . .
. . . NO HAMMERING



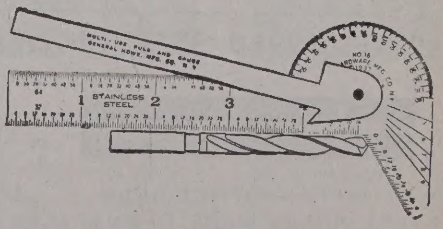
MADE IN 7 SIZES

No. 9— ¾″	Dia.	$2.10 set
No. 9— ⅞″	“	2.10 “
No. 9—1⅛″	“	2.50 “
No. 9—1$\frac{3}{16}$″	“	2.50 “
No. 9—1¼″	“	2.50 “
No. 9—1$\frac{5}{32}$″	“	2.80 “
No. 9—1⅜″	“	2.80 “
Extra ⅜″ Cap Screws		.25 “

(TEMPORARILY DISCONTINUED)

No. 16 MULTI-USE RULE and GAUGE

A combination Pocket Tool that appeals to all mechanics, toolmakers, draftsmen, hobbycrafters etc.



7 DISTINCT FEATURES

1. A Quick Reading Scale
2. A Drill Point Gauge
3. A Square
4. A Bevel Protractor
5. A Center Finder
6. A Circle Divider
7. A handy Tap and Drill Table

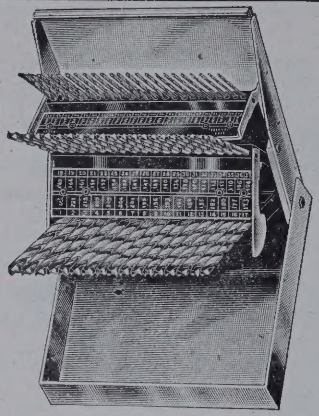
No. 16—furnished with LEATHER CASE and Instructions .... 1.00 ea.

This is Only a Partial Listing of General Tools . . . Send for Catalog

MECHANICS TOOLS GENERAL RULES AND GAUGES

AUTOMATIC
Self-Positioning
DRILL CASES

- Opens and Closes Instantly
- Easy-Reading Eye-Level Index
- Drills Always Protected
- Lifetime Construction
- Compact—Fits Any Tool Chest



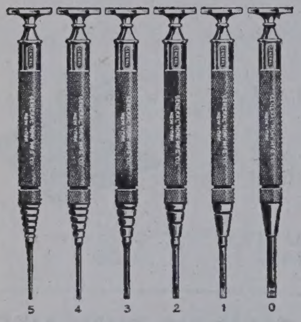
Just lift the cover and drills automatically come into position.

Just close cover and drills are lowered into case.

MADE IN 3 SIZES

No. 41—for 1 to 60 drills	**$2.50 ea.**
No. 43—for $\frac{1}{16}$ to ½″ drills	**3.75** “
No. 45—for A to Z drills (61 to 80 size ready shortly)	**3.75** “

JEWELER'S or INSTRUMENT MAKER'S SCREWDRIVERS

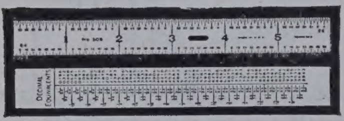


Made of Plated Steel Tubing with Swivel Head and Threaded Chuck. Chucks are grooved for easy identification. Set consists of following Blade Sizes:

No. 0	.100
No. 1	.080
No. 2	.070
No. 3	.055
No. 4	.040
No. 5	.025

	List Price
No. 600—(Set of 6 screwdrivers)	***$2.75 set**
Extra Blades (specify sizes)	**.15 ea.**

6" STIFF TEMPERED STEEL RULE

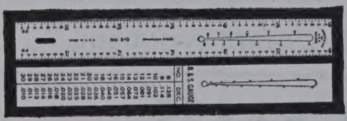


With Quick-Reading 32's and 64's

Decimal Equivalents on reverse side.

No. 308—STEEL RULE	**$0.25 ea.**

6" TEMPERED STEEL RULE

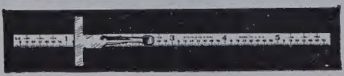


With Quick-Reading 32's and 64's

B & S Wire Gauge with Decimal Equivalents on reverse side.

No. 310—STEEL RULE	**$0.25 ea.**

6" TEMPERED STEEL POCKET RULE



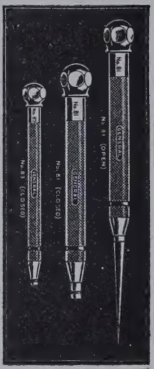
With Depth Gauge

Quick-Reading 64's with Pocket Clip.

No. 301—POCKET RULE	**$0.15 ea.**

STEEL RULES MADE IN 28 STYLES AND SIZES

POCKET SCRIBERS



with REVERSIBLE BLADES

For Sheetmetal Workers, Aircraft Mechanics, Hobbycrafters, and other mechanics.

Made of knurled steel tubing and equipped with screw-chuck which locks points in open or closed position.

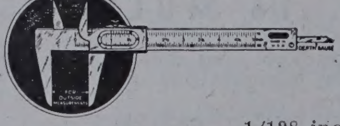
No. 81—⅜″ dia. body	**$0.50 ea.**
No. 83—¼″ “ “	**.35** “
Extra Points	**.15** “

POCKET SCREWDRIVERS

Same style bodies as Pocket Scribers shown above, except equipped with Screwdriver Blades.

No. 86—¼″ body (Blade Point width .099)	***$0.40 ea.**
No. 87—⅜″ body (Blade Point width .151)	**.50** “

No. 621 VERNIER SLIDE CALIPER



A very handy caliper having 16's and 32's graduations with a vernier reading of 1/128 inch (or ½ of a 64th).

Every tool user should have one.

Individually enveloped with printed instructions.

No. 621—Vernier Caliper	**$1.00 ea.**
No. 623—Vernier with Metric dimensions	**1.25** “

This is Only a Partial Listing of General Tools . . . Send for Catalog

VACO

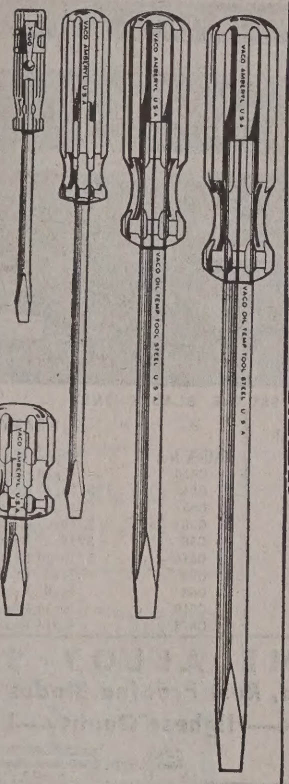
AMBERYL SHOCK & BREAK PROOF HANDLE SCREW DRIVERS

DEEP GROOVE SURE GRIP HANDLES — ALLOY STEEL BLADES — FULLY GUARANTEED

AMBERYL "*Lifetime*" TOOL STEEL SCREW DRIVERS

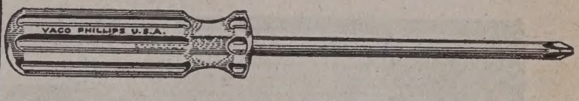
The finest tool steel blades, heat treated to give long hard service—FULLY GUARANTEED.

Stock No.	Blade Size	Style	List each	Dealer each
A116–	2″–.0925x2	Pocket Clip	$.35	$.23
A116–	3″–.0925x3	Pocket Clip	.35	.23
A116–	4″–.0925x4	Pocket Clip	.35	.23
A130–	2″– ⅛x2	Pocket Clip	.25	.17
A130–	3″– ⅛x2	Pocket Clip	.25	.17
A130–	4″– ⅛x3	Pocket Clip	.25	.17
A132–	1¼″– ¼x1¼	Stub	.60	.40
A216R–	4″– ⅛x4	Narrow Bit	.50	.33
A216R–	6″– ⅛x6	Narrow Bit	.53	.35
A216R–	8″– ⅛x6	Narrow Bit	.55	.37
A216R–	10″– ⅛x10	Narrow Bit	.60	.40
A316R–	3″–3/16x3	Round Blade	.60	.40
A316R–	4″–3/16x4	Round Blade	.65	.43
A316R–	5″–3/16x5	Round Blade	.70	.45
A316R–	6″–3/16x6	Round Blade	.70	.46
A316R–	8″–3/16x8	Round Blade	.75	.50
A316S–	4″–3/16x4	Square "	.80	.50
A316S–	6″–3/16x6	Square "	.85	.65
A316S–	8″–3/16x8	Square "	.90	.57
A416R–	4″– ¼x4	Round Blade	.80	.53
A416R–	5″– ¼x5	Round Blade	.85	.57
A416R–	6″– ¼x6	Round Blade	.90	.60
A416R–	8″– ¼x8	Round Blade	.95	.62
A416S–	4″– ¼x4	Square "	.95	.62
A416S–	6″– ¼x6	Square "	1.05	.69
A416S–	8″– ¼x8	Square "	1.15	.77
A516R–	6″–5/16x6	Round Blade	1.05	.69
A516R–	8″–5/16x8	Round Blade	1.10	.75
A516R–	10″–5/16x10	Round Blade	1.15	.77
A516S–	6″–5/16x6	Square "	1.20	.80
A516S–	8″–5/16x8	Square "	1.30	.87
A516S–	10″–5/16x10	Square "	1.40	.94


VACO AMBERYL U.S.A.
VACO OIL TEMP TOOL STEEL U.S.A.

AMBERYL PHILLIPS—HIGH CARBON STEEL BLADE

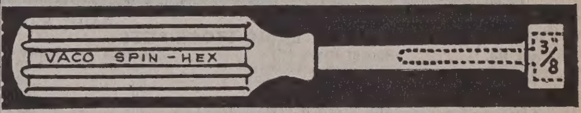
The increasing use of Phillips self-centering screws in radio assembly make a full kit of Vaco Phillips screw drivers a necessity.


VACO PHILLIPS U.S.A.

Stock No.	Size Blade (″)	Point No.	Overall Length (″)	List Each	Dealer Each
P10	5/32x3	1	5½	$.80	$.53
P20	¼x4¾	2	8½	.95	.63
P30	5/16x6	3	10	1.25	.83
P40	⅜x8	4	12	1.70	1.13
P50	¼x1½ Stub	2	3	.90	.60
P60	5/32x1¼ Stub	1	3	.85	.57
P111	5/32x1¼ Pocket Clip	1	3½	.70	.47
P122	5/32x3¼ Pocket Clip	1	5½	.75	.50

AMBERYL SPIN - HEX NUT DRIVERS

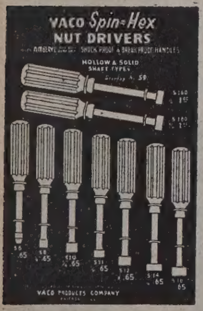
Deep drilled shafts—Thin wall Hex. Flat faced for close work.


VACO SPIN-HEX
3/8

Stock No.	Size (″)	Overall Length (″)	List Each	Dealer Each
S6	3/16	6	$.75	$.50
S8	¼	6	.75	.50
S9	9/32	6	.75	.50
S10	5/16	6	.75	.50
S11	11/32	6	.75	.50
S12	⅜	6	.75	.50
S14	7/16	6	.75	.50
S16	½	6	.75	.50
VOLUME CONTROL SIZES—*Hollow Shaft Throughout*				
S160	½	7	1.40	.93
S180	9/16	7	1.50	1.00
FOR 3/32" SQUARE SET SCREWS				
S3	3/32 Square	6	.75	.50

VACO CARDED DISPLAY UNITS

No. S90
SPIN-HEX NUT DRIVER DISPLAY UNIT


VACO Spin-Hex
NUT DRIVERS
AMBERYL SHOCK PROOF & BREAK PROOF HANDLES
HOLLOW & SOLID SHAFT TYPES
Display No. S9
VACO PRODUCTS COMPANY

Contains One Each

SPIN-HEX

3/16″, ¼″, 5/16″, 11/32″, ⅜″, 7/16″, ½″

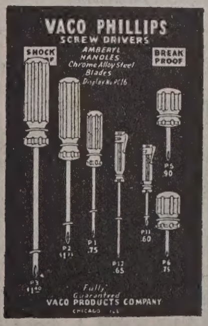
and one each Volume Control 7/16″ and ½″

Heavy easel back board keeps each size in its place.

List each $8.65

Dealer each 5.50

No. PC260
PHILLIPS CARBON STEEL DISPLAY UNIT


VACO PHILLIPS
SCREW DRIVERS
SHOCK PROOF
AMBERYL HANDLES
Chrome Alloy Steel Blades
BREAK PROOF
Fully Guaranteed
VACO PRODUCTS COMPANY
CHICAGO, ILL.

Contains One Each

PHILLIPS High Carbon

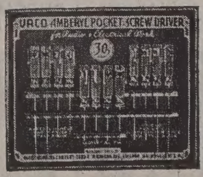
Nos. P10, P20, P30, P50, P60, P111, P122

Display these to your customers. Also keep one unit on your bench.

List each $6.65

Dealer each 4.22

No. A1116
EXTRA THIN BLADE POCKET CLIP SCREW DRIVERS


VACO AMBERYL POCKET SCREW DRIVER
for Radio & Electrical Work
30

Contains One Dozen Assorted Lengths

No. 116 Radio Pocket Clip Screw Drivers. Blade Dia. .0925. Bit Width .0825.

Extra long Amberyl Handle clipped at top, very popular and useful. Contains 4 each 2″, 3″ and 4″ lengths on display board.

List per unit of 12...$4.20

Dealer per unit of 12.. 2.65

No. A238
1/8" SQUARE BLADE HEX VACOLITE HANDLE, POCKET CLIP SCREW DRIVER

VACOLITE
SHOCK and BREAK PROOF
Pocket Clip
SCREW DRIVERS
GUARANTEED
VACO PRODUCTS COMPANY

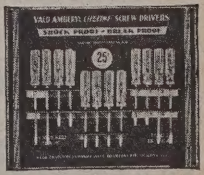
Contains One Dozen

2″ square blade Shock and Break Proof hexagon Vacolite handle with pocket clip. A tough strong rust proofed blade. A very popular driver—low in price but high in quality.

List per card................$2.40

Dealer per card.............. 1.50

No. A138
1/8" ROUND BLADE NARROW BIT AMERYL HANDLE POCKET SCREW DRIVER


VACO AMBERYL LIFETIME SCREW DRIVERS
SHOCK PROOF - BREAK PROOF
25

Contains One Dozen Assorted Lengths

⅛″ blade, narrow cabinet point. Board holds 4 each: 2″, 3″ and 4″ lengths. ½″ grooved handle, Shock and Break Proof, Rust Proofed Blades.

List per card.........$3.60

Dealer per card....... 2.16

VACO

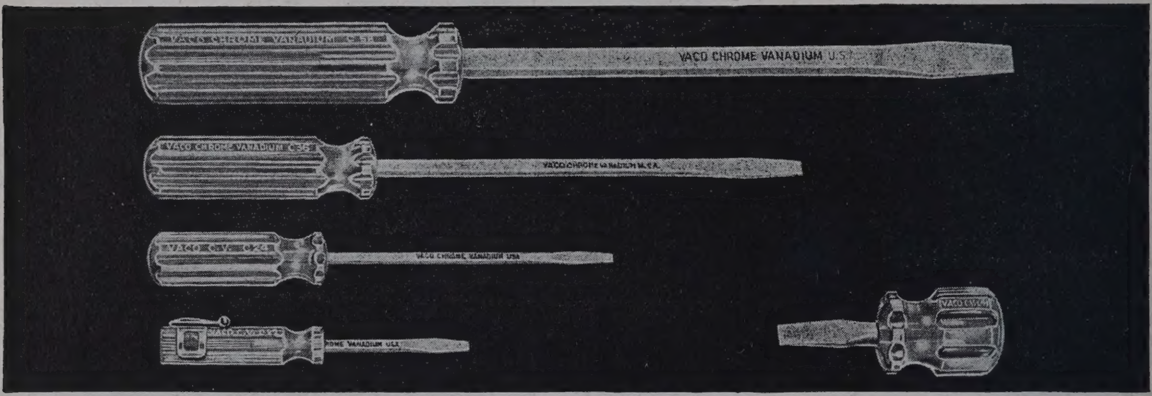
AMBERYL SHOCK & BREAK PROOF HANDLE SCREW DRIVERS

DEEP GROOVE SURE GRIP HANDLES — ALLOY STEEL BLADES — FULLY GUARANTEED

VACO HAND FORGED—CHROME VANADIUM STEEL SCREW DRIVERS

AMBERYL HANDLES, Long Tapered Hand Shaped Bits

"The Finest Screw Driver Money Can Buy"


VACO CHROME VANADIUM C58
VACO CHROME VANADIUM U.S.A.
VACO CHROME VANADIUM C36
VACO CHROME VANADIUM U.S.A.
VACO C.V. C24
VACO CHROME VANADIUM USA
CHROME VANADIUM USA
VACO C.V.

MADE WITH SQUARE BLADES ONLY

THIN BLADE RADIO STOCK SIZES

Stock No.	Size of Blade (″)	List each	Dealer each
C22	⅛x2 Pocket Clip	$.60	$.40
C23	⅛x3 Regular Style	.65	.43
C24	⅛x4 Regular Style	.70	.46
C26	⅛x6 Regular Style	.75	.50
C33	3/16x3 Regular Style	.90	.60
C34	3/16x4 Regular Style	.95	.63
C35	3/16x5 Regular Style	1.00	.66
C36	3/16x6 Regular Style	1.05	.70
C38	3/16x8 Regular Style	1.10	.73
C41	¼x1¼ Stubby	.85	.57
C44	¼x4 Regular Style	1.10	.73
C46	¼x6 Regular Style	1.25	.83
C48	¼x8 Regular Style	1.35	.90

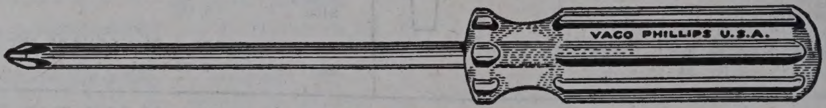
HEAVY DUTY LARGE SIZES

Stock No.	Size of Blade (″)	List each	Dealer each
C410	¼x10 Regular Style	$1.40	$.93
C54	5/16x4 Regular Style	1.50	1.00
C55	5/16x5 Regular Style	1.55	1.03
C56	5/16x6 Regular Style	1.60	1.06
C58	5/16x8 Regular Style	1.70	1.12
C510	5/16x10 Regular Style	1.80	1.20
C66	⅜x6 Regular Style	2.00	1.33
C68	⅜x8 Regular Style	2.10	1.39
C610	⅜x10 Regular Style	2.20	1.47
C614	⅜x14 Regular Style	2.75	1.83

VACO PHILLIPS CHROME ALLOY SCREW DRIVERS

Cadmium Plated, Rust Proofed Blades

Built for Long Hard Service—Highest Quality—Longest Life


VACO PHILLIPS U.S.A.

Stock No.	Size and Length (″)	Point No.	Overall Length	Takes Screws Numbers	List each	Dealer each
P1	5/32x3	1	5½″	4 and smaller	$.95	$.63
P2	¼x4¾	2	8½″	5 to 9	1.30	.87
P3	5/16x6	3	10″	10 to 16	1.50	1.00
P4	⅜x8	4	12″	18 and larger	2.10	1.40
P5	¼x1¼ Stub	2	3¼″	5 to 9	1.10	.73
P6	5/32x1¼ Stub	1	3¼″	4 and smaller	1.00	.66
P11	5/32x1¾ Pocket Clip		3½″	4 and smaller	.95	.63
P12	5/32x3¼ Pocket Clip	1	5½″	4 and smaller	1.00	.66

VACO PHILLIPS OFFSET CHROME ALLOY SCREW DRIVER

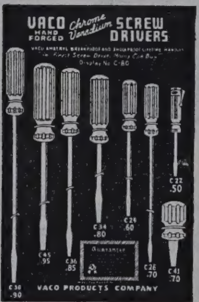
Combination No. 1 Point One End
No. 2 Point Other End

VACO PHILLIPS
OFFSET
SCREW DRIVER
50¢
VACO PRODUCTS CO U·S·A
OIL TEMPERED ALLOY STEEL
MANUFACTURED UNDER PHILLIPS PATENTS
2046817 · 2046838
COMBINATION FIT for No.2 & No.3 SIZES
PHILLIPS SCREWS
VACO PRODUCTS COMPANY, CHICAGO, U.S.A.

No. P120 Offset Phillips should be in every tool kit. Very handy for those hard to get at places. Length 4¼″. Bit length 1″. No. 1 and No. 2 points.

List, Each $0.60
Dealer, Each................ .40

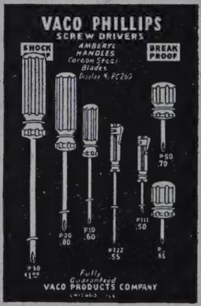
No. C80
CHROME VANADIUM RADIO SIZES


VACO HAND FORGED Chrome Vanadium SCREW DRIVERS
C45 .95
C36 .85
C34 .80
C24 .60
C22 .50
C26 .70
C41 .70
C38 .90
VACO PRODUCTS COMPANY

This attractive display unit contains 8 popular radio sizes — one each, C45, C38, C36, C34, C24, C26, C22, C41.

List, Each $7.65
Dealer, Each 5.00

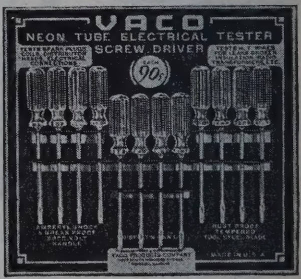
No. PC16
CHROME ALLOY PHILLIPS DISPLAY UNIT


VACO PHILLIPS
SCREW DRIVERS
SHOCK
BREAK PROOF
AMBERYL HANDLES
P30 $1.00
P20 .80
P10 .60
P122 .55
P111 .50
Fully Guaranteed
VACO PRODUCTS COMPANY

Contains one each P1, P2, P3, P5, P6, P11, P12. Chrome alloy Amberyl Phillips. Handy for both bench use and display.

List, Each $8.20
Dealer, Each 5.10

No. AN12
NEON ELECTRICAL TESTING SCREW DRIVER DISPLAY


VACO
NEON TUBE ELECTRICAL TESTER
SCREW DRIVER
90¢
MADE IN U.S.A.

Contains — One dozen No. AN4, 3/16 x 4″, neon tube testers. Handles colored red in center, shows a bright red flash when leaks are encountered.

List, per Card.......$11.40
Dealer, per Card.... 7.00

VACO

AMBERYL SHOCK & BREAK PROOF HANDLE SCREW DRIVERS

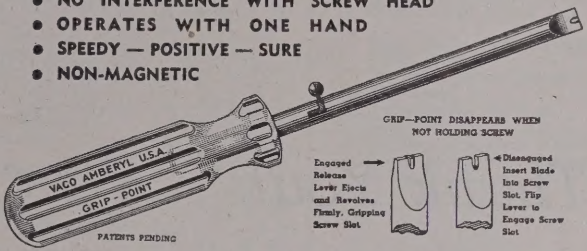
DEEP GROOVE SURE GRIP HANDLES—ALLOY STEEL BLADES—FULLY GUARANTEED

VACO GRIP-POINT SCREW HOLDING SCREW DRIVERS

"The Perfect Screw Holding Screw Driver"

- HOLDS SCREW SECURELY TO DRIVER
- NO DROPPED OR LOST SCREWS
- HOLDS SCREW UNTIL FULLY SET

- NO INTERFERENCE WITH SCREW HEAD
- OPERATES WITH ONE HAND
- SPEEDY — POSITIVE — SURE
- NON-MAGNETIC


VACO AMBERYL U.S.A.
GRIP - POINT
PATENTS PENDING
GRIP—POINT DISAPPEARS WHEN NOT HOLDING SCREW
Engaged Release Lever Ejects and Revolves Firmly, Gripping Screw Slot
Disengaged Insert Blade Into Screw Slot. Flip Lever to Engage Screw Slot

- NO INTERFERENCE WITH SCREW HEAD
- OPERATES WITH ONE HAND
- NON MAGNETIC

Stock No.		Sizes	Overall Length	Weight Doz.	List Each	Dealer Each
No. G2	3/16"x4¼"	Takes Screws 1 to 6	7¼"	2 lbs.	$1.65	$1.10
No. G3	¼"x4¼"	Takes Screws 4 to 14	8"	2¼ lbs.	1.70	1.13
No. G4	5/16"x4¼"	Takes Screws 8 to 20	8¼"	2½ lbs.	1.75	1.16

VACO RUBBER COVERED BLADE ALL INSULATED SCREW DRIVERS

Long slim blades coated all but the tip with rubber by a new plating process. Handles are shock and break proof amberyl.

Prices are for Each One

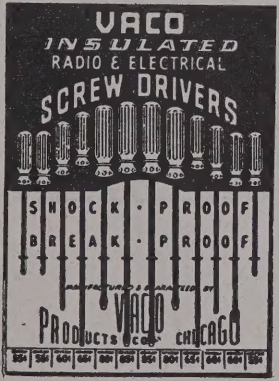
VR241 — ⅛"x4"
List, $.65 . **Dealer, $.43**

VR261 — ⅛"x6"
List, $.70 . **Dealer, $.46**

VR281 — ⅛"x8"
List, $.75 . **Dealer, $.50**

VR361 — 3/16"x6"
List, $.90 . **Dealer, $.60**

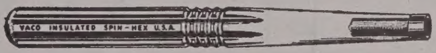
VR381 — 3/16"x8"
List, $.95 . **Dealer, $.63**


VACO
INSULATED
RADIO & ELECTRICAL
SCREW DRIVERS
SHOCK · PROOF
BREAK · PROOF
VACO
PRODUCTS CO. CHICAGO

DISPLAY UNIT
No. VR1200

CONTAINS ONE DOZEN ASSORTED

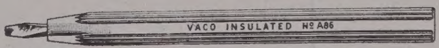
VACO ALL AMBERYL, COMPLETELY INSULATED ¼" SPIN-HEX NUT DRIVER


VACO INSULATED SPIN-HEX U.S.A.

No. S40

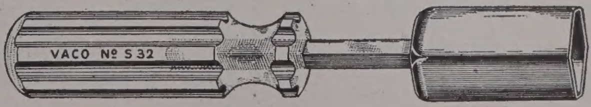
Radio Servicemen will welcome this solid amberyl all insulated nut driver in the popular ¼" size.
List, ea. $1.00 . . . . **Dealer, ea. $.66**

No. A86 All AMBERYL SCREW DRIVER


VACO INSULATED No A86

A full six inches of solid amberyl all insulated radio screw driver. ⅛"x1" bit. Pocket clip attached. Handy, useful, safe.
List, ea. $.65 . . . . **Dealer, ea. $.43**

AMBERYL HANDLE ELECTROLYTIC NUT WRENCH



The quick way to service PAL nuts used on electrolytic condensers. Deep sockets to clear leads.

TWO SIZES

No. S32 for 31/32" nuts, list, ea, $1.50 . **Dealer, ea. $1.00**
No. S36 for 1 5/32" nuts, list, ea. 1.50 . **Dealer, ea. 1.00**

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

RADIO'S MASTER

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